

INTERSTATE MEDICAL JOURNAL.

VOL. IX.

SEPTEMBER, 1902.

NO. 9.

ORIGINAL ARTICLES.

THE ETIOLOGY OF PROSTATIC HYPERTROPHY.

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The etiology of enlargement of the prostate is, at best, unsettled. Opinions vary, from the assertion that no cause is discoverable to views the most dogmatic. Most modern theories are as impeachable as the old-time views. Home, more than eighty years ago, held that the principal cause of prostatic hypertrophy was a slow return of blood from the vesical neck, due to the disadvantageous situation of the prostatic plexus in its relation to the heart, favoring habitual congestion. He believed that this congestion was enhanced by high living, or anything determining an excess of blood to this region, and that traumatism, as in horseback riding, sometimes produced a rupture of the blood vessels, analogous to apoplexy, in the deeper parts of the prostate, this being followed by hypertrophy. A prominent etiologic rôle was assigned to old age.

As respects the etiologic importance of congestion, Home was perhaps not far wrong.

Wilson, in 1821, agreed with Home as to the tendency to the disease in high livers. He believed that celibacy, on the one hand, and venereal excesses, on the other, were of etiologic importance, although it exceptionally occurred in the abstemious and temperate.

Sir Charles Bell believed in a predisposition to prostatic enlargement, without defining it. Accepting such predisposition, he gave as an exciting cause irritation, with frequent contractions of the bladder. These contractions, he claimed, caused overaction of the urethral muscles, which drew the so-called median lobe backward so as to elevate it and constitute a urinary obstruction.

Samuel Cooper frankly confessed his ignorance of the causes of prostatic hypertrophy. He believed, however, that people who led sedentary lives were especially liable to it.

Brodie accepted enlarged prostate as a matter of course in old men, because it never appeared until marked senility developed. This is a type of the erroneous view then and now held by the laity and the majority of the profession.

The elder Gross claimed that prostatic hypertrophy was due to habitual engorgement of the organ, due to excessive coitus, calculous irritation, stimulating diuretics, alcoholic or malt liquors, exposure to cold, the suppression of cutaneous diseases, gout and rheumatism, trauma, frequent catheterism, and habitual straining at stool, as in chronic diarrhea.

Astley Cooper asserted that enlargement of the prostate was invariably the consequence of age, not of disease.

Mercier classed as predisposing causes all conditions and influences favoring sluggishness of the circulation. Men of lymphatic habit, with abundant cellular and adipose tissue, have generally a lax and atonic venous system. Such subjects, he claimed, were most frequently prostatiques—especially when of sedentary habits.

Amussat claimed that syphilis, a foreign body in the bladder, or urethral stricture were common causes. It is observed, he claimed, chiefly in elderly persons who have for a long time used sounds or bougies.

Desault held that it was common in elderly men, and in those who had had numerous attacks of gonorrhea. He also believed it bore an effect in relation to scrofula and other cachexie.

Civiale placed first, as a cause, vesical calculus. Next in frequency was stricture. He denied the importance of venereal excess.

Coulson merely presents the opinions of others.

Thompson long ago expressed himself unequivocally as believing that chronic prostatic enlargement occurs in young patients. The organ in such cases enlarges by interstitial plastic inflammatory exudate; while in old age there is unnatural development of the prostatic tissue proper—*i. e.*, a true hypertrophy. He says that inflammation does not favor growth, but is directly antagonistic to it. A prostate, therefore, enlarged by inflammation is not likely subsequently to hypertrophy. Nutrition is impeded, not encouraged. In brief, Thompson, unwarrantably, I think, excludes inflammation from the etiology. Urethral stricture and calculus he does not consider important etiologically. He does not believe that habitual prostatic and hemorrhoidal congestion is especially causative. True hypertrophy, he claims, is never caused by venous congestion, which impairs structure and predisposes to ulceration, but never enhances vital force. This may be true enough, but loses weight in view of the fact that prostatic hypertrophy is a misnomer. He disputes the etiologic possibility of rheumatism, gout and syphilis. Regarding sexual excess, he says: "Much influence has been attributed to habitual sexual indulgence; but, as the affection occurs in chaste individuals, continence also has been accused. As to the first, repeated use might be expected to induce hypertrophy here as elsewhere, for, without discussing the prostatic function, we must associate the organ with the sexual act. It is thus difficult not to attribute hypertrophy to sexual excess. Facts, however, contradict this view. Hypertrophy is absent when the function is most vigorous, and does not develop from licentiousness during the prime of life, and it must be admitted that elsewhere hypertrophy develops coincidently with, or immediately follows, increased action." Thompson denies that the prostate is a secreting gland, but admits it for the sake of argument, and claims that no other gland is a pathologic parallel of prostatic hypertrophy, as all of its component tissues are not increased in their relative proportions. The enlargement may be due to increase of glandular elements; or to an increase of either the connective structure or prostatic muscular tissue. Thompson maintains that enlargement of the prostate is not a simple muscular hypertrophy from overaction. He mentions the similarity of the uterus and prostate, and thinks that, just as during the decline of reproductive activity the uterus is prone to develop new growths identical in structure with its own, a similar tendency exists in the

prostate at a corresponding period. Thompson's tables apparently support his view that prostatic hypertrophy is a disease of old age, but do not make clear the connection between it and senility. Granting that old age is the chief etiologic factor, much is unaccounted for. Why should so many old men have a distinctly pathologic condition of an organ which, in old age, is practically unimportant, physiologically or functionally? Thompson himself admits that hypertrophy is not necessarily, or even usually, present in old age, but is rather exceptional. According to him, a slight hypertrophy, undetermined during life, may exist in one in three men after sixty, and marked enlargement may be met with in one out of seven or eight after that age.

The modern French school, following Guyon, holds that prostatic enlargement is not a local condition, and that all the urinary organs, particularly the bladder, undergo changes of analogous character, the origin of which is in structures bearing absolutely no anatomic relation to the urinary system; implying, in short, that enlargement of the prostate is due to general atheroma. This school claims that the vesical walls lose tone, with consequent accumulation of residual urine and cystitis prior to prostatic enlargement. Reginald Harrison asserts that partial retention frequently precedes the vesical signs of prostatic enlargement, the depression of the posterior wall of the bladder being primary. This depression results in compensatory hypertrophy, with the development of a strong muscular buttress at the base of the trigone, and finally enlargement of the prostate itself.

Even though depression of the floor and alteration of the walls of the bladder may, in certain cases precede perceptible prostatic change, I contend this is no argument against the view that pouching of the bladder is a secondary condition in most instances. General atheroma, for example, with resulting alteration of vesical structure and tone, might occur and subsequently become associated with enlargement of the prostate, which enlargement is due to the same causes as in other cases in which prostatic hypertrophy is unassociated, primarily, at least, with vesical disease. That general atheroma is sometimes the cause of prostatic disease, I feel assured. Fatty degeneration of the bladder, however, is, to my mind, a much more important factor in primary pouching. This I have verified by numerous dissections. I have found fatty bladder chiefly in alcoholics. In several cases the prostate was also markedly fatty.

Taking for our point of departure the modern and rational view that all pathology is but perverted physiology, it is necessary to inquire into the structure and function of the prostate, in our endeavor to determine the causes of that omnibus pathologic condition termed prostatic hypertrophy.

The etiologic views which I will present are, with certain modifications, the same as I have previously published from time to time.

The old nomenclature of the prostate, which implied its glandular structure and function, has been assailed by some modern authorities upon genito-urinary disease, and there has been considerable discussion of the question as to whether its function is purely muscular, or its muscular action secondary, or, better, auxiliary to its glandular function. The best and most logical description of the prostate is found in the lectures of Mansell Moullin. He premises his discussion by stating that the prostate acts neither as a sphincter nor as a muscular buttress. It does not assist in the discharge of urine, nor delay its exit. It is merely a sexual structure surrounding the first portion of the urethra, with a

distinctly sexual function. The *pars prostatica*, surrounded by the prostate, belongs anatomically to the bladder, which is not only continuous with it, but is developed in common with it from the allantois. They are independent of the rest of the genito-urinary way. In the monotremes the penile and prostatic portions of the urethra never become organically joined, the penile portion being a sexual organ and independent of the urinary function. In man a somewhat similar condition is seen in so-called hermaphroditism, where the urethra opens perineally. In my own dissections I have proven Moullin's assertion that a vertical section of the prostate just below the vesical neck in an infant shows the relation of the prostate to the urethra in an unmistakable fashion. The urethra lies in the center, or a little anteriorly, with a few longitudinal non-striated muscular fasciculi around it. External to these is a very thin layer of circular fibers, some of which seem muscular. This is probably part of the circular coat of the bladder. The prostate itself forms two great bilateral masses, chiefly composed of ducts, with indications of acini at their ends, converging toward the central canal. Anteriorly, they are connected by inosculating fibers with large nuclei spreading from the great transverse isthmus of stroma stretching across the urethra. The prostate, in brief, surrounds and supports the urethra, but forms no part of it. The canal traverses its middle and the glandular tissue is simply massed around it.

My dissections especially confirm this latter statement of Moullin's. The relation of the urethra to the prostate is such as might result from drawing the mucous membrane of the bladder down through a tunnel in the prostate and attaching it firmly.

The sexual character of the prostatic glandular tissue is certain. It can have nothing to do with micturition. The glands do not fully develop until adolescence. In castrated animals they atrophy, and, like the other sexual organs in many animals, their size and perfection of structure rise and fall according to the breeding season.

The stroma of the gland—the fibrous and muscular tissue surrounding the *pars prostatica*—is held by many to be the real seat of hypertrophy in old age. Whatever may hold pathologically, the gland stroma is purely sexual, and has nothing to do with micturition, so long as the structure is normal. That it has no urinary function is shown by its absence in women and children, who get along very well without it.

As Moullin says, what has been said regarding the structure and function of the prostate is true only of the normal organ. Any alteration in shape, size or consistence distinctly modifies its relation to both the urinary and sexual functions.

It would appear, then, that the prostate is practically a gland, the function of which is purely sexual. The glandular elements are cemented by connective-tissue stroma, reinforced and protected by muscular and fibrous tissue, varying in amount according to the degree of pathologic change in the gland. Either inhibition or exaggeration of function may result in stromal change.

It must be admitted that in seeking for the etiologic factors in prostatic pathology we must take the normal structure and function as our basis. This is especially necessary in considering chronic pathologic processes where there has been no traumatism or infection. If the organ is sexual, it is to the sexual function that we must look for the *causa prima*. If the function of the prostate

be glandulo-sexual, it is toward its function as a sexual gland that we must refer in explaining its pathology. If the prostate acts normally in any way as a muscle, we must consider also perturbations of its muscular action in studying the etiology of prostatic enlargement.

I have never been able to understand how enlargement of the prostate could be attributed to senility. This theory seems especially untenable if we accept the prostate as a sexual gland, the activity of which should decrease with advancing age, with a resulting atrophy, if anything, rather than hypertrophy. Moullin says: "Enlargement of the prostate is at its commencement a diffuse glandular growth, spreading chiefly in the mucous and submucous tissues and later becoming modified by secondary changes, failure in expulsive power of the bladder being in almost every instance the direct consequence of it. Age alone, though it may not be without influence, is not the cause, for two reasons, either of which is sufficient. Prostatic overgrowth is absent in the majority of old men, and its degree bears no relation to the age they reach; and in the second place it occurs, more frequently than is usually believed, in men who should not be called old either as to years or sexual power. The age when it first appears must not be confounded with the age at which residual urine is discovered. The growth may exist for years before causing residuum, and the freedom from enlargement when the gland is explored rectally is worthless as regards extension in other directions. If vertical antero-posterior sections are made through the vesical neck, and the urethra, after hardening, with as little disturbance as possible—and this is the only fair test for the vesical form of overgrowth; rectal measurements, the weight of the removed gland and the external dimensions, giving very little information as to the shape of the gland, and none at all as to its consistence—we quite often find considerable increase long before anything which can be justly called old age."

Moullin presents a number of cases from twenty-seven to fifty-four years of age.

Moullin's observations regarding the frequent occurrence of hypertrophy in comparatively early life especially interested me, according, as they did, with my own. For many years I have observed that a large proportion of comparatively young individuals under observation for various genito-urinary affections, not necessarily prostatic, and who have not recently suffered from definite inflammation of the organ, present more or less fullness of the prostate of varying hardness when examined per rectum. I have found this condition in masturbators and in individuals who have had at a remote period inflammation in and about the prostate and vesical neck. I often find it where there are no distinct prostatic symptoms. It seems to me improbable that all such cases can go through life without prostatic hyperplasia, with resulting sclerosis or glandulo-fibrous overgrowth.

For many years I have regarded the relation of old age to hypertrophy of the prostate as secondary, believing that the primal point of departure is really pathologic conditions incidental to abuse of the sexual function or to acute or sub-acute, inflammatory or congestive processes of the organ during early life, whether infective or not. Old age, in my opinion, bears the same relation to enlarged prostate as it does to certain joint troubles developing late in life as a consequence of some long-forgotten pathologic condition or injury occurring at an earlier period. Considering the distinctly sexual function of the prostate, an

exaggeration of the secretory activity of the gland and the muscular action incidental to expulsion of semen during the earlier years of life may logically be assumed to constitute the point of departure for prostatic hypertrophy later on, especially if the gland become the seat of infection and inflammation. Increasing experience confirms me in the foregoing views. I have numerous cases of old and middle-aged men under my observation at the present time whom I have seen from time to time for nearly twenty years and who are suffering from prostatic disturbance and enlargement of greater or less degree, which has been more or less continuous during the time that they have been under my observation, and who present histories of sexual excesses or deep-seated gonorrhea, or both in combination, in some instances, with dietetic and alcoholic excesses. I have performed prostatectomy in a number of such cases.

I had under my care several years ago a physician of forty-five years of age who had a distinctly enlarged prostate, a moderate amount of residual urine and a considerable vesical disturbance, whose own observations and opinion of his case coincided with my own on the point just made.

I recall a number of laymen from forty-five to sixty years of age who have acknowledged sexual excesses, and stated that they have had vesical and prostatic trouble more or less continuously following gonorrheal prostatitis many years before. I could present a sufficient number of cases to alone make quite a comprehensive paper.

I believe that the term prostatic overstrain embraces the etiology of a large proportion of cases of prostatic enlargement, cases involving widely variant pathologic states. Just as the structures of a joint strained during early life may become thickened with advancing age without there being necessarily evidences of disease elsewhere, so may the prostate show early in life the results of abuses inflicted in youth or early manhood. This is almost inevitable if the organ has ever been inflamed. It is admitted that enlargement of the prostate occurs in men who have been continent or who at least have never had gonorrhea and have led temperate lives. It may occur, for example, in the honest farmer, surrounded all his life by an environment favorable to physical perfection. But evils other than sexual excess, infection and intemperance deserve attention. While not so frequently a masturbator as is the city boy, the country lad does very often acquire the habit, and is much more likely to suffer from suppressed desire than the urban young man. Continence should imply not only physio-sexual continence, but psycho-sexual continence and abstinence from masturbation. If it be granted that masturbation often produces congestion and hyperesthesia of the prostate and prostatic urethra, and if, moreover, it be admitted that the function of a glandular or muscular organ cannot be long abused without permanent morbid results, the probable importance of masturbation in the etiology of prostatic hypertrophy is clear. If this be admitted, and the large proportion of boys addicted to it be considered, masturbation as an etiologic factor assumes importance.

Can disturbance of micturition *per se* eventually produce enlargement of the prostate? I should answer affirmatively, the irritation acting in precisely the same manner as does prostatic overstrain from sexual excess. Irritation of the *pars prostatica* and *membranosa* produces frequent and spasmodic micturition, with coincident disturbance of the circulation of the prostate, a condition similar to that prevailing during sexual excitement and ejaculation. The relation of ir-

ritation of the deep urethra to prostatic hyperemia is well shown by the salutary effect of the posterior urethral application of nitrate of silver in such cases. Such applications certainly have no effect upon the prostate *per se*. It is questionable, indeed, whether any sort of application enters the prostatic ducts. The application probably superficially cauterizes, or, if you please, constricts only the mouths of these orifices, any other beneficial effect being explicable only by its action upon the mucous membrane and its germ-destroying properties. The large, tumefied prostate in masturbators or following infection of the deep urethra often speedily subsides under occasional applications of nitrate of silver. If prostatic overstrain be continued during middle life, as is likely, it is evident that there is danger of prostatic hypertrophy. So long as the tissues of the body are elastic and well nourished, tissue metamorphosis occurring readily and rapidly, the various organs and tissues soon recuperate and regain their normal status, even after having been subjected to frequent and extraordinary strain. As middle life approaches, however, this recuperative power is impaired. In the case of the prostate, the penalty of overstrain is obvious. As the prostate enlarges, the conditions which produced it compound. Furor sexualis and obstinate priapism are, in some prostatiques, familiar experiences.

Diathetic influences, such as gout and rheumatism, in the etiology of prostatic hypertrophy, should, I think, be taken into consideration, although they are not so important as some would have us believe. In considering these diathetic states in relation to prostatic pathology, it is fair, I think, to again refer to prostatic overstrain as the primary condition. To use what is perhaps an indefinite, but none the less comprehensive term, the tendency to chronic formative irritation—*i. e.*, chronic pathologic tissue building—seen in many gouty and rheumatic subjects, particularly late in life, may manifest itself only in some organ or tissue which is or has been many years before, perhaps, subjected to injury or overstrain. Taking again as our point of departure the thickened and stiffened joint in the old man, injured many years before, the possible importance of gout and rheumatism is obvious. In many cases of so-called rheumatic gout or arthritis deformans, the process is limited to a joint or joints which were injured in early life.

Gout and rheumatism should occupy at least a minor position in the etiology of late prostatic disease, because such constitutional states promote tissue irritability and a tendency to new growth at points of strain and irritation, whether present or remote.

Prostatic enlargement, as shown in the *resumé* of etiologic opinions, has been attributed to stricture. Stricture of the urethra often produces chronic congestion and hyperplasia of the prostate—*i. e.*, overstrain, with resulting circulatory and nutritive disturbance, if you please; but within certain limits the danger of resulting prostatic hypertrophy is inversely to the degree of obstruction. In short, strictures of large caliber in the *pars pendulosa* produce proportionately greater reflex prostatic disturbance than deeper strictures of small caliber. The man who at from thirty to forty has a tight, deep stricture is pretty safe from enlarged prostate in after years. If the prostate does become enlarged, the enlargement is not likely to encroach upon the prostatico-urethral caliber or jut into the vesical neck. Irritation and congestion develop, it is true, but hyperplasia of the portion of the prostate most likely to obstruct urination is prevented by the pressure of the urine in the prostatic urethra. In perform-

ing perineal section upon tight musculo-membranous strictures, I have sometimes found the prostatic urethra extremely dilated at the expense, apparently, of that portion of the prostate immediately contiguous to the prostatic urethra. Relative prostatic atrophy from pressure is well shown in calculi lodged in the prostatic urethra. There may be, it is true, compensatory hypertrophy of the outlying tissues of the prostate; but there is a very logical analogy, viz., cardiac hypertrophy followed by dilatation in valve obstruction. Whatever the cause of pathologic tissue building, hyperplasia or hypertrophy of tissue, the tissue thus formed has a purpose. This is not always beneficial, it is true, for certain anatomic or physiologic conditions frequently defeat nature's object in this direction, as seen in the case of urethral stricture; but even in the latter the new growth is designed to promote rest and relieving strain. Admitting that nature does nothing haphazard, the proliferation of glandular, connective and muscular tissue incidental to hypertrophy of the prostate is readily understood.

In the absence of special causes of irritation or strain, the prostate should atrophy in old age *pari passu* with the diminution of sexual activity, as it does in castrated animals and eunuchs. That it does not frequently atrophy is explicable by two facts, viz.: (1) Few individuals are in a perfectly physiologic sexual condition during their entire lives. Fewer still enjoy a normal old age. (2) The sexual activity is long-enduring in the male, and the sexual organs may remain capable of the physiologic performance of their functions until the individual is otherwise in a condition of advanced senility. To put the latter proposition more plainly, and without facetious intent, the individual often dies before his sexual organs have had time to do so.

Prostatic overgrowth from hyper-functional activity of the organ, this being the most comprehensive term for describing its etiology in detail, may affect the prostate in several different ways. There may be excess of glandular tissue, which Moullin believes to be of paramount importance. There may be excess of fibroid tissue. The enlargement may be diffuse and general, or circumscribed. The variety of the enlargement depends largely upon certain conditions secondary to the hypertrophy. Anatomically, it depends upon the relative proportion of fibroid, connective and glandular tissue. Much depends upon the age of the subject. If a large number of prostates in comparatively young subjects, in whom more or less congestion and enlargement are present—which are not usually considered to be conditions preliminary to prostatic hypertrophy, but which I believe to be so—be examined, the proportion of glandular tissue will be found to be much greater than in more advanced cases. The glandular elements are, to a certain extent, strangled out by fibro-connective tissue development as the case progresses. This metamorphosis explains why the prostatic congestions, inflammations and hyperplasias of early life have been considered different from and unrelated to the prostatic pathology of old age.

Disturbance of micturition, from whatever cause, I believe, as already stated, to be a powerful factor in the etiology of prostatic hypertrophy. In most cases there is a history of more or less marked urinary irritation and obstruction, extending perhaps over a number of years. In short, the so-called secondary results and the most important symptom of prostatic hypertrophy exist long before the enlargement is diagnosed. In some cases of prostatic hypertrophy considerable residual urine has collected, as a consequence of the obstruction, before the surgeon's aid is sought. Decomposition exceptionally occurs before

exploration or instrumentation. Cystitis in the prostate is usually an ingraft upon the hypertrophy, and the resulting depression in the *bas fond*, due, as a rule, to septic catheterization. If the residuum remains aseptic, it gives rise to very little discomfort. Sometimes the patient is comfortable, although the residuum is large, until acute congestion, with resulting obstruction, occurs. Considerable obstruction, with large residuum, may form in posterior median hypertrophy at the vesical neck, which is not readily discoverable.

The relation of inflammation of one kind or another to prostatic hypertrophy is somewhat similar to that of prostatic overstrain, with which inflammation is always related. Inflammation produces profound nutritive changes, and by inducing frequent micturition produces a condition of unrest which must result in an enhancement of hyperplasia. No matter what the function of the prostatic muscular tissue may be, it comes into play in both ejaculation and micturition, and the excessive performance of either of these acts means muscular overwork and muscular overgrowth. The final quality of the overgrowth depends upon the extent and relative proportion of connective tissue hyperplasia and sclerosis, and glandular changes.

That gonorrhea and its congeners bear an etiologic relation to prostatic disease in later life I am convinced, simply because I have become satisfied that inflammations and congestions of all kinds are important etiologic factors—this with due deference to Thompson's opposite view.

My impressions on the relation of inflammation in early life to late prostatic disease date back many years. They have been crystallized by dissections of nearly three hundred prostates within the last six or seven years.

In various specimens of incipient prostatic overgrowth of probable inflammatory origin, I have been greatly interested to observe the whorl-like localization of the hyperplastic connective and muscular tissue, indicating the tendency to circumscription in certain areas. In some specimens the preponderance, on the one hand, of glandular, and, on the other, of fibro-muscular tissue, has been especially marked.

I formerly considered distinct fibromyomatous or glandular tumors, which may be shelled out of the prostate upon division of the investing tissues, as apparently contradictory to some phases of the etiology I have outlined. Such tumors are sometimes merely covered in by the prostatic capsule, while in other instances they are imbedded in the organ at a greater or less depth. I now believe, however, that the foregoing etiologic factors bear an important causal relation to such growths, although it is much more difficult to define the relation of cause and effect than in cases in which there is a distinct general glandular or fibro-muscular enlargement. To explain the occurrence of these growths satisfactorily would be to explain uterine fibromyomata, which offer the clearest analogy to the growths under consideration. The old-time explanation, based upon the supposed homology of the uterus and prostate, explains nothing, particularly in view of the fact that the etiologic theories of uterine fibromyomata thus far advanced are obscure. Cohnheim's theory is, possibly, as comprehensive and logical as anything thus far advanced. Idiosyncrasy, in the form of a local histological aberration, is certainly worthy of consideration. Admitting such a local idiosyncrasy, however, it might still remain for the etiologic factors which I have given to determine the occurrence of the growths. When once a circumscribed growth begins, certain local conditions may tend to enhance its cir-

circumscription, as is seen in the pedunculation of the so-called median lobe, in which the increasing frequency of micturition unquestionably has some effect in modifying the form of the enlargement.

Local influences have, in my estimation, a very important bearing upon the circumscription of the tumors. Having studied these cases post-mortem and under the microscope from their incipiency to full development, my impressions are as follows:

1. That, as a consequence of a disproportion in the quantity of histologic elements involved in inflammatory or congestive hyperplasia of the prostate, the segregation of certain elements occurs in some particular area, with a preponderance of glandular, muscular or fibrous elements. This is associated with, in the case of the glandular, which is by far the most important structure for consideration, more or less irritation and inflammation from infection.

2. There is an attempt at segregation of the involved area by the development of connective tissue around it in essentially the same manner as in the case of a foreign body, or of a tumor of any kind which has a tendency to encystment. Mere hyperplasia and condensation of the enveloping connective tissues form a pseudo-encystment, even where there is little or no irritation save that produced by the mechanical pressure of the involved area upon the surrounding tissues, with resultant disturbance of nutrition. We find, even in a process so innocuous as lipoma, a distinct segregation of the connective tissue of the surrounding parts, forming a fragile capsule. Once segregation is established, the line of demarkation increases *pari passu* with the progress of the case in general, from the tendency of the tissues of the involved area, on the one hand, and the investing connective tissues, on the other, to propagate after their kind. In by far the majority of cases, I believe that the point of departure is the glandular elements of the prostate, the enveloping connective tissue and the varying degrees of fibrous and muscular tissues involved in the circumscribed tumor being merely incidental.

CONCLUSIONS.

1. The principal defect in most theories of the etiology of prostatic hypertrophy is the arbitrary attempt to attribute it to one particular cause or co-related set of causes. This is especially true of the theories of inflammation, senility, general atheroma and diathetic conditions.

2. The prostate, while in some respects an involuntary muscle, is anatomically and functionally a sexual gland.

3. The relation of the all-important structure of the organ to micturition is accidental, as shown by the perfect performance of this function prior to the period of development of its glandular structure. The urinary function is physiologically secondary, and where prominent is pathologic.

4. Granted the sexual and glandulo-sexual function of the prostate, it is chiefly to a perturbation of this function that we must look for an explanation of so-called hypertrophy of the organ, and especially of all pathologic disturbances not directly due to traumatism or infection.

5. Even though the muscular tissue plays a secondary rôle, it deserves consideration in prostatic pathology. Muscular overwork is probably a minor factor at least in the etiology of prostatic hypertrophy. This is especially true when once the so-called hypertrophy has fairly begun.

6. Hypertrophy of the prostate is probably due largely to overstrain of the

organ during the period of its greatest sexual activity. This overstrain produces congestion and glandular proliferation, connective tissue and muscular hyperplasia. If this persists for a long time, it is not followed by resolution, but by permanent enlargement. Prolonged and ungratified sexual excitement, with the resulting disturbance of the circulation of the prostate, may equally with sexual excess so derange the nutrition of the gland that hypertrophy results late in life.

7. Inflammation, gonorrheal or otherwise, is an important etiologic factor.

8. The conditions constituting the point of departure from the normal prostate that underlie prostatic hypertrophy come on earlier in life than is usually supposed, a large proportion of individuals being affected by it.

9. Hypertrophy is usually attributed to senile change, simply because the secondary results of prostatic enlargement do not appear or become marked in most instances until the patient is well along in years. Prostatic overgrowth occurs, as a rule, before middle age, but residual urine does not accumulate in any great quantity until after the bladder walls have become atonic by virtue of the physiologic changes of age, and the insidious effects of unnoticed obstruction. Residual urine in considerable amount may be innocuous until germs enter the bladder and set up decomposition.

10. Prostatic hypertrophy in advanced life, from overstrain of the organ at an earlier period, is explicable upon the same grounds as is the development of arthritic disturbance, in men beyond middle age, at the site of a traumatism—*i. e.*, a strain received in early life.

11. The changes produced by inflammation in early life may go steadily on and later develop prostatic hypertrophy.

12. Senility, gout and rheumatism are, in all probability, not exciting causes of prostatic hypertrophy, but are determining factors, in so far as they promote irritability of tissue, a tendency to connective tissue proliferation, inelasticity of tissue, and, in the case of the diatheses mentioned, hyperacidity of the urine with frequent micturition.

13. General atheroma is often responsible for a condition in which both bladder and prostate are thickened and sclerosed. This condition, of all others, should not be classed as hypertrophy. Prostatic hypertrophy is, to a certain degree, an evidence of conservatism on the part of nature in her attempts to resist strain and promote rest of a much-abused organ. This resistance begins at the time when such abuse is most pronounced, although its effects may not be manifested until the time element and other influences have come into play, later in life.

14. While the prostate is not normally a urinary organ, strictly speaking, and while disturbance of micturition *per se* may not cause prostatic hypertrophy, said disturbance causes muscular overwork. When once it arises as a consequence of prostatic hypertrophy, it necessarily reacts upon the diseased organ and enhances the pathologic condition. Inasmuch as frequent micturition is generally dependent upon conditions directly or indirectly affecting the prostate—usually of an inflammatory nature—it must be conceded an important rôle in the etiology of prostatic hypertrophy, if we accept inflammation as a factor.

15. In normal old age the prostate should atrophy. That it does not do so more frequently is explained (1) by the prolonged duration of the sexual function, incidental to the developmental effect of overindulgence and other causes of sexual overstimulation; (2) by the frequency of hyperplasia of the organ from the causes herein presented.

16. It may be remarked in passing that neither the human male nor female is, on the average, perfectly healthy sexually. The sexual function is made subservient to gratification rather than procreation—for which it was originally designed. The sexual life of the lower animals typifies the normal, in most instances, while that of the human subject typifies the abnormal, or, if you please, the artificial. There is no question in my mind as to the truth of this assertion regarding the female, and I suspect that it bears with equal force upon the sexual function and organs of the male. That an organ is patient and long-suffering under abuses of its physiology does not obtain for its possessor immunity from future penalties.

17. Careful rectal examinations of men, from the age of twenty upwards, show that a prostate which is perfectly normal in size, consistency and sensibility is the exception rather than the rule. This is true of the masturbator and sexual hypochondriac, as well as of the individual who has had posterior urethritis, although the latter condition is, it must be confessed, a very frequent explanation. That this aberration of the prostate is followed, in the majority of cases, by a return to the normal condition is highly improbable, in view of the fact that most men so affected lead lives which are so unphysiologic, from a sexual and dietary standpoint, that the condition is likely to be aggravated rather than improved. To expect complete resolution in patients who continue sexual abuse and perhaps overindulge in the pleasures of the table would be absurd. The penalty in such cases is, in my opinion, very frequently hypertrophy of the prostate.

18. The nomenclature of prostatic disease should be thoroughly overhauled and remodeled along scientific lines. As now used, the term "prostatic hypertrophy" is an omnibus term covering a number of different conditions. When this has been done, we will hear less of total prostatectomy and more of the enucleation of prostatic tumors.

SUSPENSION OF THE UTERUS.

By E. J. NEVILLE, M. D., of St. Louis.

It is not my intention to advance any chapter or theory upon ventrofixation, but merely state my own practical experience in the corrections of retrodisplacement of the uterus by an abdominal operation.

Let it be understood that suspension of the uterus through abdominal incision should be resorted to only in cases of persistent retrodisplacement which do not yield to simple treatment, and then only should such steps be taken where such displacement interferes seriously with health.

It will be noticed in the following cases that the simple methods of treating retrodisplacement extended over some months, with failure to bring the uterus into its normal position. You will note that in every case upon which I have operated there existed symptoms which seriously interfered with health, such as backache, pelvic discomforts, exaggerated during menstrual period, inability to walk without pain, pain in abdomen and thighs, nervousness, headache, dyspepsia and constipation. These symptoms are the chief indications for operation.

You will note that in the following cases, in which it was possible to lift the

uterus and support it on a wool pack or by pessary, that such treatment gave decided relief, and after fair trial many of the distressing symptoms became less severe in character and many entirely disappeared.

A few words might be said as to the method of operation. An abdominal incision just over the symphysis about two inches in length; after opening the cavity, the introduction of two fingers and elevating the fundus, bringing it up to the abdominal wall; you then carry two silk ligatures through the fundus on a line posterior to the uterine ends of the tubes, passing the ligatures through the peritoneum, then through the abdominal wall, passing the ligatures from within out, lessening the chances for infection; Howard Kelly's methods of operation being somewhat different from mine, inasmuch as he brings the posterior wall of the uterus in contact with the abdominal wall, making an unnatural ante flexion for a retroflexion. On one occasion I did the Kelly operation, bringing the posterior wall of the uterus well up against the abdominal wall. I found that the fundus of the uterus pressed upon the bladder, interfering with the natural distention and causing dysuria, which persisted for seven weeks, but after which subsided, leaving the patient in perfect health, with one exception, that of painful menstruation.

It is a known fact that actual fixation does not last but a short time. We find upon bimanual examination that the uterus is found some distance from the abdominal wall, but is found to be limited in its movements by long adhesions between the fundus and the abdominal wall.

I am not able to answer the important question as to the behavior during pregnancy and labor following this operation. Dr. C. P. Noble, of Philadelphia, has found that all the serious difficulties have been met with in the cases having broad adhesions between the uterus and the abdominal wall, but he did not find it possible in the collation of his statistics to distinguish between the results of the various methods of operating. The following difficulties during pregnancy may be noted following this operation:

- (a) Constant pain in the hypogastrium.
- (b) Retraction of scar.
- (c) Cervix retracts into the pelvis; may even become displaced up into the abdominal cavity.
- (d) Anterior uterine wall failing to expand, forming a large, fleshy tumor mass, obstructing the superior strait. As a result, we find that the posterior wall of the uterus may become as thin as tissue paper.
- (e) Abortion or premature labor may come on spontaneously.
- (f) Excessive nausea, due to traction on the scar.

DIFFICULTIES DURING LABOR.

- (a) Labor may be delayed some weeks beyond term.
- (b) Labor may be powerless, owing to the inability of the thinned-out posterior uterine segment to expel the fetus.
- (c) The labor may be obstructed by the mass of tissue in the anterior wall, as by a tumor.
- (d) The proper expansion of the cervix is hindered by its abnormal position high up even in the abdomen.
- (e) Malpositions, such as transverse and breech, are more frequent than the normal position.

(*f*) The uterus in labor may tear loose, forming large hematoma at the point of rupture.

I believe that the difficulties of pregnancy and labor following this operation may be overcome to some extent by its technique. Howard Kelly attaches the posterior wall of the uterus to the abdominal wall, making an unnatural ante-flexion for a retroflexion, the objections to this operation being, first, that the position of the uterus might cause a retraction of the cervix into the abdominal cavity; second, during pregnancy we find that the anterior wall fails to expand, forming a large tumorous mass, obstructing the superior strait; third, as a result we find a thinning of the posterior wall, which, I think, is a most serious condition that in time produces abortion or premature labor.

We have, then, found that of the six difficulties confronting us in pregnancy, we can, through proper technique, overcome three of the most serious.

Of the six difficulties during labor we can also overcome three of the most serious. First, labor may be powerless owing to the inability of the thinned-out posterior uterine segment to expel the fetus; second, the labor may be obstructed by the mass of tissue in the anterior uterine wall, as by a tumor; third, the proper expansion of the cervix is hindered by its abnormal position high up even in the abdomen.

The method of suspending the uterus by bringing its anterior face against the anterior wall I object to most emphatically, on account of its many mechanical disadvantages. A uterus lifted in this manner hangs with its weight upon its attachment and in time must resume its retrodisplacement, for the simple reason that adhesions must become elongated, therefore allowing the uterus to again assume its posterior position, with a probable long, fibrous band connecting the anterior wall of the uterus with the abdominal wall. If the adhesions are so broad as not to allow of this condition, Dr. C. P. Noble has well shown that all kinds of complications follow broad adhesions during pregnancy and labor. This fibrous band may be the cause of serious intestinal trouble. It has at no time corrected the displacement, but has now produced a permanent retrodisplacement, which could not be temporarily corrected by a pessary or wool pack.

CASE 1.—Miss H., age twenty-seven; servant. I first saw this case September 9, 1898. The patient complained of pain in the thighs and abdomen, and said she was unable to walk any distance without pelvic discomfort. On digital examination I found a retrodisplaced uterus with an enlarged right ovary, but no adhesions. I gave her the usual local treatment, including the wool pack support to the uterus, for five months with marked improvement, but I was unable to do anything for the prolapsed ovary, the pessary causing irritation to this organ. After some consideration I decided upon an abdominal operation. The patient was sent to the hospital on February 13th, and on the morning of the 15th the abdomen was opened. I found the appendix attached to the right ovary. After removing the appendix and ovary I attached the uterus to the abdominal wall. The patient made a rapid recovery and is at present in Kansas City employed as a servant. She writes that she is in perfect health.

CASE 2.—Miss G., age thirty-one; servant. Patient entered my office April 12, 1898. She was very nervous, and complained principally of backache and pelvic tenesmus. On digital examination I found the uterus retroverted, with adhesions fixing the uterus in its malposition. I sent her to the hospital on May 4th, and on May 7th I did a ventral fixation. I saw her about three months after the operation, when she complained of some pain in the back. This was relieved

after four days' treatment. About eight months ago I saw her, and she is now in perfect health. She is also working as a house servant.

CASE 3.—Mrs. K., age thirty-four; married, mother of one child. Patient entered my office April 2, 1898, complaining of severe pain in the back. She said that at times she suffered with severe headache. She also complained of pain in the abdomen, which she declared was so severe that she would surely die if she were not relieved. This pain in the abdomen had continued for six weeks. She could not walk without pain. On digital examination I found a retroversion in the third degree. After the usual routine treatment for a period of three months she was much improved. I then gave support to the uterus by a pessary, but she still complained of pain on the left side in and about the ovary. Seven months after treatment she returned, saying she could stand the pain no longer, and if she was not relieved she would seek other medical advice. She was put in the chair and an examination revealed an enlarged left ovary. I found it was impossible to relieve her, so sent her to the hospital and on November 10, 1898, I opened the abdomen. On the left ovary I found a cyst about the size of a hen's egg. I removed the organ and fixed the uterus to the abdominal wall. The patient made a quick recovery. She is at present in the best of health. She has gained about thirty pounds in weight.

CASE 4.—Mrs. L., age thirty-one; mother of two children. Had enjoyed good health till the birth of her last child. After her last confinement she developed a backache, from which she could get no relief. She lost flesh steadily, suffered from dyspepsia and constipation, and was very nervous. I first saw the patient September 22, 1898. On digital examination found retroversion of the uterus in the third degree. The uterus movable. There were no adhesions, and I had no difficulty in lifting the uterus to a normal position. After six weeks of treatment with the wool pack I placed a Smith pessary in position. The patient went on for six months in apparently good health. She afterwards contracted gonorrhea. She was then under treatment for a period of six weeks. The acute symptoms of gonorrhea subsided, leaving a serious chronic endometritis with marked muco-purulent discharge. I found that the uterus had assumed its old retrodisplacement, it being necessary to take out the pessary on account of inflammation. The patient, knowing nothing of her disease, naturally became discouraged, and told her husband she intended to seek advice from other physicians. After a lengthy conversation with the husband we decided on an operation. On July 7, 1899, I did a curettage in conjunction with a ventral fixation. On opening the abdomen I found a slight inflammatory condition of both tubes. I hesitated for a moment as to the course to pursue, but finally decided to leave the tubes and suspend the uterus from the abdominal wall. The patient made an uninterrupted recovery, the chronic endometritis subsided, and at this writing she is in perfect health.

CASE 5.—Mrs. C.; married. Came to my office October 3, 1898. The patient was pale and nervous. She complained of not being able to stand or walk any length of time. She had been treated with drugs without relief, as might have been expected. She had some pelvic inflammation following a miscarriage. I placed the patient on the table, and on digital examination found the uterus was retrodisplaced and immovable, being adherent to the rectum. I made an attempt to break up the adhesions, but found it impossible to do so. I informed the patient that her only means of relief would be through an operation. She then left my office and did not return till September 13, 1899. She said she had returned to tell me she had decided on an operation. She was sent to the hospital on September 15th, and on the morning of the 17th I opened the abdomen and broke up the adhesions, after which I suspended the uterus to the abdominal wall. The patient made a rapid recovery with the exception of a dysuria and painful menstruation. I saw the patient last on November 9, 1900. She is in perfect health with the exception that the painful menstruation still persists.

The dysuria disappeared seven weeks after the operation. I did the Kelly operation in this case, bringing the posterior wall of the uterus well up against the abdominal wall. This unnatural antelexion of the uterus was responsible for the dysuria and the painful menstruation.

CASE 6.—Mrs. R., age thirty-one; domestic servant. This case was referred to me by Dr. Goldstein. The patient complained of pelvic discomfort, exaggerated during menstruation, and was very nervous. She said she suffered from severe headache at times, and that she could not remain on her feet more than a few hours at a time. On digital examination I found a retroversion. After conversation with the patient as to the method of treatment, she decided on the operative route. I sent her to the hospital at once, and on December 6, 1900, the operation was performed. She made a speedy recovery, and is now doing work as a domestic and in perfect health.

CASE 7.—Miss G., twenty-nine years of age; servant. This case is identical with case 6.

CASE 8.—Mrs. H., age twenty-nine; mother of two children. The patient first called on me December 16, 1900. She complained of severe headache at times and of backache and pelvic tenesmus. She was extremely nervous and suffering with hysterical hyperesthesia. She had been under the care of other physicians for the past two years without result. On digital examination I found a laceration of the perineum, a retroflexion with prolapsed and enlarged right ovary. The uterus was slightly enlarged. After thirty days' local treatment the patient seemed improved, but not enough to satisfy her. I finally decided on operation. On January 27, 1901, I sent the patient to the hospital, and on the morning of the 29th opened the abdomen. I found the right ovary twice the normal size and prolapsed. The ovary was removed, and the uterus suspended to the abdominal wall. This patient did fairly well until the 7th of February, when she developed an inflammation of the broad ligament. This finally disappeared, leaving the patient in good health.

Congenital retroversions in young unmarried women are very difficult to cure with the pessary; still I believe this instrument should always be tried, with probably one exception. Every woman who uses a pessary should be under the care of a physician, and for this reason it is often advisable to recommend immediate operation to poor women as the quickest and surest method of cure.

NASAL DISEASES AND OBSTRUCTIONS AS A CAUSE OF LARYNGITIS, AND METHODS FOR RELIEF OF SAME.*

By W. B. SHIELDS, M. D., of St. Louis.

The lack of free drainage from the nasal cavities, due to any obstructive lesion, the stoppage of thorough aeration on account of a partial or complete occlusion of the nasal fossa, or atrophic rhinitis and pharyngitis, with constant dropping of atrophic scabs into the larynx, are, in my judgment, by far the most frequent causes of laryngitis in the adult. In children, laryngitis is more frequently due to the presence of adenoids or enlarged faucial tonsils. Any one who has seen a number of cases of laryngitis in the adult, can readily recall the fact that the majority of patients have complained, at some time or other, of more or less dripping into the throat. It is true that there are some cases of laryngitis of lithemic origin, a larger number due to enlarged lingual tonsils, and a fewer number accompanying granular pharyngitis with oversecretion, but

* Read before the St. Louis Medical Society.

I am of the opinion that the nasal obstructive lesions or atrophy of the mucous membrane lining its cavities are the direct cause of the majority of laryngeal derangements.

In my experience, purulent inflammation of the accessory nasal cavities is much less apt to cause an accompanying laryngitis than obstruction of the nasal fossa. The pus discharge is less apt to become solid and is more freely gotten rid of than nasal secretions from the fossa retained and hardened from improper lack of drainage and aeration. First and most frequent on the list of nasal obstructions are ridges and spurs of the septum, nearly always accompanied by more or less deflection of same. Most of the septal ridges are, in my experience, due to a deflection, the latter being in some cases slight, in others quite marked. I have seen ridges unaccompanied by deflection of the septum, but I think them rare. Spurs of the septum are rarely accompanied by deflection, but, according to my observation, are not often found. In those cases where we find ridges accompanied by marked deflection, the side on which we find the ridge is either entirely or almost closed, the opposite fossa being very large, allowing a much too large volume of cold air, laden with dust and micro-organisms, to enter the respiratory tract, affecting the nose, eustachian tube and larynx, the latter more especially on account of the air not being heated and moistened, the nasal surface of one fossa not being sufficient to moisten this large volume of air. On the side of obstruction secretions accumulate on account of lack of free drainage and form masses more or less hard, which generally drop back and not infrequently into the larynx, setting up an irritation both mechanical and on account of the acrid matter of the secretions. In a patient thus affected, this combination—too much cold dry air, dust and micro-organisms, and hardened, acrid secretions—produces, after a longer or shorter time, a chronic laryngitis, which can only be relieved by surgical procedure directed at the cause in the nose. Hypertrophic rhinitis, to a less degree, may cause laryngitis by mechanical obstruction and retention of secretions, which harden and drop; but, as I take it, the laryngitis which accompanies hypertrophic rhinitis is more due to mouth-breathing, especially at night, which is also the main cause of laryngitis accompanying enlarged tonsils and adenoids in children. Hypertrophied lingual tonsils cause laryngeal irritation and congestion, which can always be thoroughly relieved by excision of the enlarged tonsils. I think quite a number of cases of supposed laryngitis are merely cases of reflex irritation from hypertrophy of the lingual tonsils, and are needlessly and improperly treated by means of local applications to the larynx, when excision of the tonsils or cauterization of enlarged lingual veins would relieve the trouble quickly and effectually.

The subject of the causation of septal deflections is one of much interest to me. In an examination of the nasal fossa of more than four hundred skulls in the anatomical museum of the Royal College of Physicians and Surgeons in London, I found more or less deflection in every case excepting the skulls of savage nations. Why this difference should exist I cannot imagine. Many theories have been advanced explaining why civilized man should have septal deflections and savages be exempt therefrom; but these explanations, to me, have never been satisfactory. From my own observation, I think that nearly all deflections are due to trauma, more especially beginning when the child is young, and in most cases from falling on the face, with, at that time, no apparent harm done.

which, after the child grows, becomes more pronounced and aggravated. These deflections are nearly always of the cartilage, but in some cases the deflection extends back, the junction of ethmoid and vomer being the seat of the bending, the ridge being along the line of greatest deflection. Purulent ethmoiditis of a chronic nature causes laryngitis, as does chronic purulent inflammation of the antrum of Highmore.

The treatment of these conditions is nearly always surgical. For removing spurs and ridges I am in the habit of using Hajek's chisels in the majority of cases, in preference to the saw. If the ridge is very long I prefer the saw, but otherwise prefer the chisel, which causes the patient much less discomfort, can be used more rapidly, and leaves a clean-cut surface. For removing spurs pure and simple these chisels are most excellent. In hypertrophic rhinitis I can see no objection to cauterization, as I have seen most excellent results following same. If the lower turbinate is very large and beefy, I think a partial removal with scissors and snare a wise procedure, and the results are more satisfactory than cauterization.

Where there is a persistent ethmoiditis with enlargement of the middle turbinate, a removal of the latter, either partial or complete, is necessary, and then breaking into the ethmoidal cells and curetting same thoroughly. In removing the turbinate I have found Holmes' scissors an excellent instrument, simplifying the operation very much. Heretofore I have used Hajek's knife, the blade bent at an angle of about forty degrees, cutting through the turbinate, and then putting the snare over the cut part, snaring off same.

I have found that the removal of the entire middle turbinate is quite a difficult thing in some cases, and have quite often been compelled to remove a high ridge of the septum or an enlarged tuberculum septi before being able to accomplish my object.

Where there is a complete or partial occlusion of one fossa, due to marked deflection of the septum, an operation for straightening of latter is indicated. As there is a lengthening of the cartilaginous septum in all of these cases, an operation for shortening same occurs to me to be the best method of remedying this condition. Of the numerous operations, Gleason's or Hajek's seems to me to be the best. Gleason's operation is made by a horseshoe-shaped incision around the deflection, the lower part of incision being the articulation between the cartilage and superior maxilla. He then fractures the neck of flap above, throws it into the fossa of the concavity, holds it with a plug put into the other fossa to control hemorrhage and hold flap in place. Hajek, of Vienna, follows the articulation of bone and cartilage, starting incision anteriorly, passing back to vomer, following it until he reaches the perpendicular plate of the ethmoid, then continues the incision upwards, being governed in the length of incision by the amount of deflection. The after-treatment is the same as in Gleason's operation. Gleason uses saws and Hajek knives.

CLINICAL REPORTS.

THREE CASES OF *TINEA CIRCINATA* IN ADULTS.

(From the Dermatological Clinic of Prof. Hardaway, St. Louis Polyclinic.)

BY WILLIAM P. LOTH, M. D., of St. Louis.

Assistant.

(ILLUSTRATED.)

CASE I.—Peter B., age thirty years, shows upon the extensor and outer aspect of the right arm, immediately above the wrist, an area about four inches in length and two inches in breadth, composed of small, nodular papules, or rather masses, and a number of follicular pustules. The papules vary in size from that of a pea to a small nut, are flattened and of rather soft consistence. Puncture of some of these papules causes a drop of pus to exude from the depth of the follicle, and in many of them the hairs are broken off short. On the anterior aspect of the forearm is a smaller discoid area, about the size of a silver dollar, covered with thin, papery scales, showing some broken hairs and a number of follicular pustules. This area, as well as the patch on the wrist, is sharply defined, elevated, rather soft to touch and does not itch. Microscopical examination of crusts from the first patch and of scales from the area on the forearm showed the presence of the large-spore ring-worm fungus—that is, the *macrosporon ecto-endothrix*. Upon inquiry it was learned that the affection had begun two months before the patient presented himself at the clinic, and that at the time it was first noticed his child was suffering from a disease of the scalp, attended with alopecia, and that the father had been carrying this child about with its head resting upon his arm. Under the application of a five per cent. xeroform ointment the lesions disappeared in a short time.

CASE II.—Miss M. M., age twenty years, presented herself at the clinic, giving the following history: One year before there appeared upon the back of the right hand a “ring-worm,” beginning as a group of papules, which grew centrically, healing in the center as the periphery extended. Several months later a similar patch appeared on the back of the left wrist, and since then both have



persisted. The only symptom complained of was a slight pruritus when the hands became warm. On examination there was found on the extensor surface of both hands a rather sharply defined area bordered by a line of vesicles and

vesico-pustules, some recent, others partly crusted, as shown in the accompanying photograph, for which I am indebted to Dr. H. P. Wells. The center of each area presented a slightly reddened, scaly or crusted surface, with very little elevation of the skin, with here and there a fresh vesicle. Examination of scales taken from the periphery of both lesions disclosed the presence of the large-spore ring-worm fungus, but staining of cover-glass preparations made from the discharge from the vesicles failed to show the presence of any spores. On inquiry it was ascertained that the patient had similar patches on the neck and upon the thigh. An ointment containing four per cent. each of sulphur and balsam of Peru was applied, which caused the disappearance of all evidence of the infection, with the exception of slight superficial scaliness, which was removed by the application of a four per cent. salicylic acid paste.

CASE III.—Harry R., twenty-four years old; hostler. On the left wrist, occupying an area on its outer and extensor aspect, was a thick group of acuminate pustules, each one pierced by a hair. Between these pustules the surface was reddened and edematous, though the pustules were so thickly placed that but little of the intervening skin surface was visible. About the periphery of the patch were several isolated groups of three or four pustules of a similar character. Some of the pustules had ruptured, the contents drying into a crust of a pale straw color. In the center of the patch there was a slight appearance of atrophy, where involution had extended somewhat further. The hairs could be easily epilated; the root-sheath surrounding each hair, and a minute drop of pus clinging to it. On pressure of the pustules after rupture, a drop of slightly tenacious pus could be forced out. Microscopical examination of the pus and of the hair showed the presence of the large-spore fungus, macrosporion endothrix. A small pustule at the periphery of the patch was excised and hardened in the usual manner. Sections stained with picro-carmin and anilin-gentian violet, decolorized with anilin oil and nitric acid (Unna), showed the fungus to ensheath the hair, undoubtedly entering the space between the external and internal root-sheath: the spores had spread into the follicles, acting leucotactically and leading to the accumulation of leucocytes about the follicle. This led to the formation of pustules, destroying the follicle, loosening the hair, and extending slightly into the perifollicular tissue. The vessels were dilated and surrounded with leucocytes and lymphoid cells, causing the inflammatory zone to gradually subside from the pustule outward. Throughout the pustule spores of immense size were found, occurring in clusters of two or three, or singly, but these were few when considering the amount of inflammatory disturbance present. With this method of staining, the spores stand out very distinctly as round, blue spherical bodies. No mycelia were found in the sections. Dr. M. F. Engman very kindly supplied me with this microscopical report. Upon culture, the typical ectothrix growth resulted on agar and gelatin. The treatment adopted consisted of epilation, followed by the application of equal parts of trikresol and alcohol three times weekly, with the application of a three per cent. xeroform salve in the interim. Slight scarring remained to mark the site of the lesion.

These three cases exemplify some of the conclusions reached by Sabouraud after an exhaustive study of the various species of fungus which cause trichophytosis of the skin. Case I. is an instance of the form which he refers to as being due to secondary infection from trichophytic ring-worm of the head (*trichophytie accessoire des téguments*), in which the parasite is of the same species as that responsible for the primary infection, namely, trichophyton endothrix of human origin. Case III. furnishes an example of the suppurative form caused by pyogenic trichophytons, almost always of animal origin, especially from the horse,

and which, according to Sabouraud, constitutes about one-third of all varieties of *tinea circinata*. This is also the form which closely resembles kerion of the scalp, occasionally found in children and young adults, and in such cases often also directly traceable to animal origin. Case II. presented a picture which agreed very closely with the condition described by Kaposi as *herpes tonsurans maculosus et squamosus*, a condition which is rarely seen so typically exemplified here with such a distinct, sharply defined scaly area bordered by a ring of vesicular lesions. It is to be remembered, however, that the term *herpes tonsurans maculosus et squamosus* is regarded as referring only to the condition due to ring-worm infection, and does not include the affection which is generally known as *pityriasis rosea*, an affection regarded by almost all dermatologists as a distinct disease, not due to the ring-worm fungus, though to Kaposi both affections were one and the same disease. A further fact is strikingly shown by these three cases, one to which Malcolm Morris refers, viz., that age is an important factor in the case of scalp ring-worm, the affection being almost peculiar to childhood. In none of these cases was there any involvement of the scalp, though in all of them the infection of the skin had persisted for some time, in one case for more than one year. They also show that there seems to be no limit of age in the case of ring-worm of the body.

INTERSTATE MEDICAL JOURNAL.

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EDITORIAL COMMENT.

WILLIAM BEAUMONT.

Dr. William Osler, of Johns Hopkins University, Baltimore, will deliver a memorial address, 'William Beaumont, the First and Greatest American Physiologist,' under the auspices of the St. Louis Medical Society. The lecture takes place at the Odeon, on Saturday evening, October 4th, at eight o'clock.

The name of William Beaumont deserves high mention and great praise. As a man, as a physician, as an army surgeon and as an original investigator, it can truly be said that Beaumont accomplished more than any of his contemporaries and perhaps as much as any who have succeeded him. His notable experiments in the case of the young Canadian voyageur who received a gunshot wound of the stomach, which Beaumont kept open by the establishment of a fistula, were destined to give a rational comprehension of the process of digestion. Where before the time of the performance of these experiments, everything connected with the process of digestion was speculative, since then physicians have been able to obtain that perfect understanding of the process which Beaumont's pioneer researches and later close investigations of others made clear. Few of us appreciate the primitive researches of our forefathers in medicine, yet the scope of their works and the import of their discoveries can best be understood when we remember that these men were working in untrodden paths, with no literature to guide, but, on the contrary, with false conceptions to delude them. They deserve more credit for their work, handicapped as they were, than do the investigators of the present day, working as they do with the examples of many

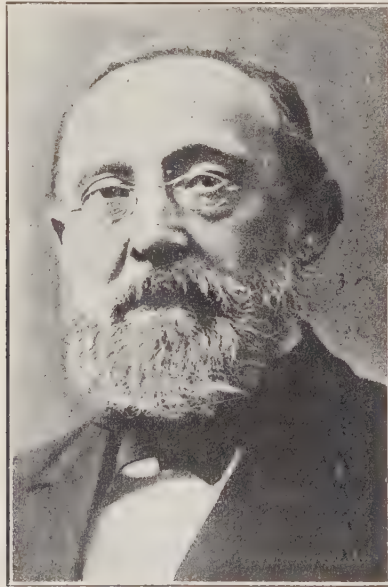
before them and with every advantage of literature, training and equipment. The experiments on digestion conducted by Beaumont were epoch-making. His diet table prepared from these investigations are classic to this day.

Beaumont's researches involved considerable expense and annoyance. Saint Martin was not an ideal clinical patient. The young voyageur continually tried to escape from the watchful eye of this pioneer physiologist. On several occasions it was necessary to bring him back from his native heath, whither he had flown to escape from the digestion experiments conducted by his master. Beaumont's fondest hope was to present his experimental subject before the physiologists of Europe, but unfortunately it was never consummated.

Beaumont was held in high esteem in St. Louis, where he practiced medicine for a number of years. He was beloved by his patients and held in high regard by his confreres. It is fitting that St. Louis should honor the memory of this distinguished man. Already we have a medical college bearing his name. Why should we not emulate the profession of Michigan who, in 1900, erected a monument to his memory at Mackinac Island, the place where his first experiments were conducted?

DEATH OF RUDOLPH VIRCHOW.

Rudolph Virchow has passed away, and with his death the world of science loses a master. Born of humble parents in a little town near Pomerania, he rose by his own efforts, or won, we may better state, in the face of the most



strenuous opposition, scientific and political, to the envied position which he has held for more than half a century. Who, knowing of his birth amid such humble circumstances, could have predicted the brilliancy of the recent celebration of that event? Who could have foreseen that not only the world of science but humanity in general would pause to do him honor on that occasion? Now the master of Orth Recklinghausen and Cohnheim is gone, and the world unites

with those who knew him and those who knew his works to mourn for him, who, in the widest sense, was a benefactor of all mankind. He has gone to join Du Bois Reymond and Helmholtz, and thus again are united these brilliant companions of early manhood. This gifted triumvirate is once more complete.

When Virchow's labors for mankind began more than a half century ago the conflicting authors of the humoral and solidar pathology held sway. It was he who first dared combat them both, and who can do more than point us in the right direction? But it was not sufficient for him to found pathology, he had to coin the terms in which to express it, and the exactitude with which he has always chosen and used his scientific terms has been not only a marvel, but a model for those who have come after. Others had made autopsies, indeed had brought out much of pathological anatomy, but for Virchow it remained to deduce the working principles of pathology. He extracted from the concrete facts the general principles on which a rational system of therapeutics must stand. He built in this way the bridge which must span the chasm between the dead and the living. He taught us to use for the good of mankind what we could see from the lifeless clay.

As writer, editor and teacher he did an almost incredible amount of work, but the crowning glory came when he raised himself to the position of father of modern medicine with the proclamation, *omnis cellula e cellula!* This alone was enough to have satisfied the ambition of one man. For this he must remain the guiding principle not only in pathology but all of medicine as well.

Virchow was not satisfied to be acknowledged the leader in the field of medical research alone, but distinguished himself as anthropologist, explorer, archeologist and statesman, having served both his state and country unswervingly year after year. Amid all this he never relaxed his labor until a few months ago, when accident laid him low, and amid intense suffering the fortitude he displayed more than equaled the energy which had characterized his work. It can hardly seem true in Virchow's case, as much as we have revered him, that he will only be appreciated now that he is gone; but, however this may be, he will never be forgotten, for not only the world of science, but humanity itself, as long as time will last, will honor his name.

PROSTATIC HYPERTROPHY.

From the laboratory study of pathological prostates, Greene and Brooks come to the conclusion that "prostatic hypertrophy of the aged is the result of chronic prostatitis," and "most frequently arises from chronic posterior urethritis, of whatever cause." This deduction is the result of such careful and intelligent investigation that it demands grave consideration; but without due clinical experimentation and proof, no laboratory result is complete. To this end may be specially noted the article elsewhere in the JOURNAL on the "Activity of Prostatic Hypertrophy," by Lydston, who from his vast clinical experience discusses the causes of the hypertrophy from the standpoint of a practitioner, and arrives at the same conclusions as Greene and Brooks. He says "careful rectal examination of men, from the age of twenty upwards, shows that a prostate which is perfectly normal in size, consistency and sensibility is the exception rather than the rule. This is true of the masturbator and sexual hypochondriac, as well as the individual who has had posterior urethritis, although the latter condition is, it must be confessed, a very frequent explanation."

This brings us to face with prophylaxis, and encourages the hope that treatment may be instituted which will relieve the prostatic inflammation before the hypertrophic stage comes on, rather than wait until the disease has reached its last period, with its prostatic engorgement and urinary retention, infection and urgency.

MYOPIA A DISEASE.

Although the ophthalmic surgeon is usually alive to his responsibilities in the presence of a case of myopia, it is a deplorable fact that the profession generally, as well as the spectacle venders, the shopkeepers and the laity, regard the condition as one which, after correction by appropriate concave spherical glasses, may thereafter be relegated to the limbo of "things accomplished," about which there is no necessity for further concern.

While it is true that many cases of myopia are practically stationary, it must not be forgotten that the majority of cases are truly "progressive"—*i. e.*, the anomaly increases in grade from year to year. Given a case of moderate myopia in a young person, it is not always possible to say, *a priori*, what the outcome will be. Every case is a law unto itself, and the careful physician will venture a prognosis only after having observed the course of the trouble over a period of years. It naturally follows that *all* myopes should be subjected to frequent examinations—say three or four times a year—with a view to differentiating the two classes. A rapid increase in the degree of the anomaly should excite the gravest apprehension as to the ultimate usefulness of the eye.

The conception of axial myopia as a disease may be better realized by contrasting the conditions which obtain in myopia with those which obtain in axial hypermetropia. In the latter, the shortness (relative to the refractive power of the media) of the antero-posterior axis of the globe is directly attributable to a congenital incomplete development of the posterior segment of the eyeball. In other words, the train of events leading to the formation of the hypermetropic eye has culminated before the birth of the child. In hypermetropia we are dealing, not with a diseased, but with an undeveloped eye. Careful measurements have shown that, practically without exception, the refractive condition in the infant's eye is hypermetropic, and the subsequent growth of the eye either reduces its hypermetropia or renders the refraction emmetropic.

Axial myopia, on the other hand, is the outcome of various extrinsic conditions encountered *post-partum*. The question as to the precise factors initiating the morbid process which results finally in a lengthening of the antero-posterior axis of the eyeball is still *sub judice*. It is highly probable that the determining factors will, in the last analysis, be found to be various and of diverse origin; in short, that any intra- or extra-ocular agents exerting an abnormal pressure or tension upon the ocular tunics will produce a deformation of the spherical globe, expressed by a prolongation of the antero-posterior axis. The myopic eye is, therefore, a deformed eye, whose original refractive condition was hypermetropic or emmetropic. That the condition is truly a pathologic one is evident from the gross changes in the fundus (choroidal atrophy, disseminated choroiditis, staphyloma posticum, etc.), visible with the ophthalmoscope.

GAS LEAKAGE AND THE PUBLIC HEALTH.

The sanitary agitation of the past few years, which has had for its object the betterment of the public health by improved sanitary arrangements, has been singularly neglectful of the conditions existing in our city homes as regards the leakage of gas. Medical men, too, have to a large extent ignored the possibility of the leakage of gas affecting the health of the community. Two original communications in the *New York Medical Journal* for August 23, 1902, the one by a competent engineer and gas expert, the other by a well-known specialist of New York, deal with this subject and point out how great the gas leakage actually is, and how some cases of anemia and general impairment in health can be produced by inhalation of the leaking gas. James C. Bayles states that over eight millions of cubic feet of gas escape per day from the gas mains in the city of New York. Glasgow, Scotland, has the greatest recorded leakage in Great Britain—1,643,207 cubic feet to the mile. He states that there is an alarming amount of gas leakage in every city in which gas is used. The paving of streets and sidewalks prevents the escape of this gas upwards, and hence it filters through into the basements and cellars, and thence into the rooms of dwellings. Part of it reaches the sewers and forms a component part of the indefinable substance commonly called "sewer gas." It is higher in carbon monoxide, being parallel in composition to the uncarburetted water gas—a most harmful form of gas. The gas which reaches houses from leaks occurring outside the foundation walls is really very much more dangerous than that which escapes from the service pipes and fixtures. It is higher in carbon monoxide, having returned to about the composition of uncarburetted water gas. The additions of the carburetting process are all taken out by filtration through the soil, and as these are the odor-imparting constituents of illuminating gas that filtered is inodorous, and hence more of a menace to health.

With the facts concerning the enormous amount of leakage obtained from engineering talent, we have actual cases on record where a train of symptoms due to the inhalation of escaped gas were made to disappear simply by changing residence. Samuel Lloyd reports a number of such cases. The symptoms consisted in fever, skin pallor, loss of strength and energy, constipation and general wasting away, without any organic lesions. Blood examinations showed a condition of anemia. Change of abode led to immediate improvement and cure.

It would seem that this matter of gas leakage is of sufficient importance in larger cities to interest health officials, and where the evil exists to the extent of endangering health the gas companies should be compelled to protect the public. It is manifest that the company will not take any such steps voluntarily, as the cost of repairing the leaking pipes is far in excess of the loss sustained by the corporation in the escaping gas.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Statistics on Carcinoma from the Standpoint of Pathological Anatomy.—RIEHELMAN, Berlin (*Berliner Klinische Wochenschrift*, Nos. 31 and 32, 1902), reviews in detail the statistics of carcinoma collected from the autopsy room. A comparison with the clinical data shows that the diagnosis of carcinoma is increased by almost twenty-two per cent. in the post-mortem room. The increasing frequency of carcinoma is, in part, attributed to the increased number of people who reach the age in which carcinoma is apt to occur; in part to the improved methods of diagnosis, and in part to the advent of the anatomical diagnosis into the statistics. It must yet be proven that there is really an absolute increase of carcinoma.

The poor nutrition and cachexia of carcinoma is due (1) to the interference with the digestion and the assimilation of the food; (2) to the ulceration and necrosis of the tumor, (3) and to the number and position of metastases.

Observations Concerning the Agglutination of the Pest Bacillus.—AUJESKY and WENHARDT, Budapest (*Berliner Klinische Wochenschrift*, No. 32, 1902), conducted experiments with reference to the agglutination of the pest bacilli, in order to determine the practicability of this test as a diagnostic aid. Experiments were made with the serum from the horse, from healthy individuals, tuberculous patients, from individuals treated with pest serum, from the rabbit before and after injections of pest serum, etc., etc.

The following conclusions were arrived at:

The serum from healthy horses will cause an agglutination of the pest bacilli, if not diluted more than 1:10.

The pest serum in greater concentration than 1:5 causes an agglutination not only of the pest bacilli, but also of other bacteria.

The blood of healthy persons, and those suffering from tuberculosis, does not result in agglutination.

After immunization with pest serum, the blood of human beings sometimes acquires the power of agglutination.

The serum from healthy rabbits causes no reaction; the serum from rabbits immunized with pest serum invariably results in agglutination.

The urine of healthy persons causes no reaction, but after the injection of pest serum it may cause agglutination.

Blood serum of the rabbit does not cause agglutination, even after "Haffkinization" of the pest bacilli.

It was also demonstrated that the Haffkine serum may be used in the agglutination test, but that the reaction is more pronounced with the living bacilli.

The Leucocyte Count in Hanot's Disease (Hypertrophic Cirrhosis of the Liver, with Icterus.—KIRIKOW and KOROBEKOW (*St. Petersburger Medicinische Wochenschrift*, Nos. 29 and 30, 1902) in six cases of Hanot's disease found hyperleucocytosis but once. This case was complicated by tuberculosis of the lungs. The leucocyte counts varied from 9,800 to 15,600.

In five cases there was hypoleucocytosis, with the following averages: 6,860

in 14 determinations, 3,970 in 12 determinations, 1,590 in 12 examinations, 2,410 in one determination, 6,290 in 15 determinations. In two of these cases the number of leucocytes frequently approached the normal.

The increase of the leucocytes after eating was irregular and not marked. This seemed to be in no way dependent upon the digestive process.

A moderate increase of the leucocytes was constant following spermin injections. In a child this was decidedly greater than that following the ingestion of food. The leucocytes were, on the whole, decreased in this disease.

Out of seventeen cases of the author's, and others in the same clinic, twelve showed hypoleucocytosis and ortholeucocytosis, and only five true hyperleucocytosis. The hyperleucocytosis points to a young affection, or a more acute course, to complications, to accompanying diseases, or to the development of a severe icterus.

The number of leucocytes is not proportionate to the erythrocytes or the hemoglobin. The process of leucocytosis in Hanot's disease, in all probability, is dependent upon the lymphatic and blood-building organs, perhaps to the spleen alone.

The erythrocytes and the hemoglobin are usually diminished. In four cases the average in four determinations was 3,412,000; in five examinations, 4,760,000, etc. The corresponding averages of the hemoglobin were sixty per cent. in five determinations, eighty per cent. in six determinations, etc. The relative leucocytosis in four cases with hypoleucocytosis was 1:497, 1:1200, 1:2018, and 1:613 in a child.

Subcutaneous Injections of Arsenic in the Treatment of Phthisis.—CYBULSKI (*Muenchener Medicinische Wochenschrift*, No. 33, 1902).—Prompted by the fact that the physicians of ancient times used arsenic in the treatment of tuberculosis, the author tried it in a series of ten cases. Cases were chosen in which the disease had not made too great headway. A one per cent. solution of the arsenite of sodium in a half per cent. solution of carbolic acid was used in slowly increasing doses.

As a result of his investigations, he concludes as follows:

Arsenic acid acts favorably upon the temperature, reducing it promptly, but not permanently. This cannot be attributed to the phenol, because the dose is too small.

The weight increases under this treatment, though not rapidly. The appetite is improved, but not in the same degree as when the arsenic is taken by the mouth. In the latter case the arsenic no doubt exerts a direct action upon the mucous membrane of the stomach.

The subjective condition of the patients was always improved by the injections.

The intestinal tract was in no way affected. The diarrhea so commonly noted in the external use of arsenic did not occur here.

Favorable influence upon the perspiration was frequently seen. There was at no time an irritation of the kidneys resulting from this treatment. Albumins were not found in the urine.

Influence upon the heart's action was not noticed. The diminution of the pulse-rate was always due to the reduction of the temperature.

The treatment seemed to exert no influence whatever over the processes going on in the lungs.

Blood Pressure in Basedow's Disease.—SPIETHOFF (*Centralblatt fuer Innere Medicin*, No. 34, 1902).—But little work has been done in the determination of the blood pressure in Basedow's disease. The author finds but two articles in the literature on this subject: the one maintaining that the blood pressure is normal; the other that it is increased.

This report includes tables obtained from the records of some twenty cases, and leads to the following conclusions: The blood pressure in morbus Basedow is not constant in any one direction. Neither is the belief correct that the blood pressure in Basedow's disease is always increased, nor, on the other hand, that it is always diminished.

In the severer forms there are both rises and falls of the blood pressure, while in the less severe forms the pressure remains normal. At this time an explanation of the phenomenon is not possible.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Influence of Arterial Hyperemia Upon Regeneration.—LIEK (*Archiv fuer Klinische Chirurgie*, Bd. lxxvii, Hft. 2).—In order to prove this principle, the author made section of the sympathetic on one side of the neck, after making a similar defect on each of a rabbit's ears; of course there was at once a pronounced hyperemia on one side, while the other was not thus affected. In one set of rabbits the defect was only skin deep; in these the healing was much more rapid on the hyperemic side, without exception. However, it must be noted that the vaso-motor paralysis which supervenes upon the original hyperemia does not, after the lapse of a certain length of time, have a beneficial effect upon healing. In order to eliminate all errors the author used in further experiments pairs of similar animals, making the defect in the left ear of each and cutting the sympathetic of but one; here, too, the same result was obtained, viz.: healing was much more rapid on the side upon which the nerve had been cut. It was further proven that the left ear does not heal more rapidly than the right, so there can be no doubt of the results.

Another series of similar experiments was undertaken to show that this rule holds equally good in *penetrating* defects of the ear, and identically the same results were obtained.

It will be readily seen that the principle is one of value, and the care with which the matter has been worked, as well as the amount of work involved in making the experiments, can only be appreciated by one who has read the article in the original.

A New Method in Pyloroplasty.—FINNEY (*Bulletin of the Johns Hopkins Hospital*, July, 1902).—The author admits that the weight of authority is in favor of gastro-enterostomy as a remedial measure for benign strictures about the pylorus, but still claims much for pyloroplasty, since no one can deny that the other method of operating is attended in the best hands with the dreaded "circulus vitiosus" now and then. The method here proposed is in a sense a modification of the lateral anastomosis of Halsted, though improved, it must be said, by a suture through the mucous membrane. After liberating the duodenum and stomach from the adhesions which are usually found, they are sewn together, thus kinking the pylorus; now the anterior row of Halsted stitches are introduced, and before being tied, a cut in the form of an inverted "U" is made through the pylorus running from the anterior surface of the stomach onto the duodenum.

The author has carried out his method upon the living in five cases, with markedly brilliant results, and says in closing that it combines more good points and less objectionable ones than any other method of pyloroplasty. The article

must be read in the original to be fully appreciated, since a number of cuts serve to elucidate the technique.

The Injection of Paraffin in Deformities of the Nose.—BARATOUX (*Le Progres Medical*, May 17, 1902).—The article opens with a statement of the many parts of the body in which paraffin has thus been used. It may be added by way of warning that various embolisms have occurred during the use of this substance. The authors are divided in their opinion as to the ultimate of the paraffin injected; some think that it remains at the original site, while others think it is re-sorbed little by little. It is, however, certain that a capsule of connective tissue forms around the paraffin soon after the injection. The paper next takes up in detail the technique involved, while four cuts illustrate some of the results which the author has accomplished. He has had experience with thirteen cases, and not a single accident has complicated the work.

Angiotripsy as a Substitute for the Ligature in Routine Work of General Surgery.—MAYER (*Annals of Surgery*, August, 1902).—The author asserts that what he accomplishes is "forcible compression" of the blood vessels, lasting in its effects, and doing away with the loss of time incident upon a ligation, as well as obviating the danger of an infection from a contaminated ligature. He exerts a pressure of one thousand pounds upon the tissue by applying a heavy compression forceps to the hemostat which has been clamped upon it. To avoid lacerating the tissues, he advises the use of a hemostat which has serrations upon only one lip, the other being formed of a soft alloy.

Sections through vessels which have been subjected to such treatment show that the inner and middle coats recoil, while the outer is firmly compressed and the lumen sealed. The hemostat is to be placed squarely on the vessel and left a short time after the pressure has been applied. In experiments on the dog and sheep, arteries of the size of the radial and femoral have been successfully treated thus, a sufficient guarantee that the method is worthy of imitation on the human; a thing which has been done with success, as will be presently shown.

Pain is supposed to be less after this treatment than after ligation, for the reason that the nerves are crushed completely instead of sometimes being caught in a ligature. The author has done various amputations, taken off the breast, dissected the neck, etc., etc., without the use of a single ligature, certainly a sufficient proof of the worth of the method. The same idea, it must be said, was published in Germany long before the appearance of the paper under discussion.

On the Use of the Abdominal Route for Approaching Rectal Tumors.—ABBE (*Annals of Surgery*, August, 1902).—This route is to be preferred or combined with one of the others in the treatment of tumors which reach above the peritoneal fold, in many of the lower ones it is not necessary. However, in all cases we gain a satisfactory idea of the lymphatic condition only when the belly is wide open. By the author's method he is enabled to make a sort of pedicle out of the vessels which supply the rectum, after having divided the gut above and below the tumor; of course it is then a comparatively bloodless matter to remove the mass. In general he prefers a permanent artificial anus to any attempt to reunite the divided gut. This is in direct contradistinction to the most recent expressions of the masters of the old world in this line, many of them speaking from an experience of more than a hundred cases. This applies rather to the German than to the French writers, it must be said. Abbe would make his artificial anus at the time of the major operation, it being of course unnecessary to make it beforehand.

The Use of Gauze Veils in Aseptic Operations.—WENZEL (*Centralblatt fuer Chirurgie*, No. 19, 1902).—It is little short of ludicrous to note how the Witzel

clinic came to use this simple device; for some time they had made use of the cumbersome Mikulicz mask for operator and male assistants, but had been unable to find anything that would fit the garb of the "sisters," who handed sponges, etc., until some one hit upon the idea of using a veil made of several folds of gauze. This was seen to be at once a simple and comfortable way of covering the head, so it was adopted by every one in the operating room. The author mentions the ease with which air can pass through such a covering, noting at the same time that all particles of moisture are held back by three layers. Especial attention is paid to persons with full beards, but no mention made of the fact that ordinary sanitary considerations make the wearing of such an appendage little short of a crime in a surgeon.

It has long been the custom in one of the St. Louis hospitals, with which the reviewer is familiar, to use just such veils as described by Welzel, but no one ever thought that there was anything so unusual about the procedure as warrant the taking of photographs and the writing of a serious article on the subject. What more natural way could there be of covering the face? It must have occurred to any number of surgeons to make use of it.

Intestinal Obstruction from Meckel's Diverticulum.—HALSTEAD (*Western Medical Review*, vol. vii, No. 8).—The patient, whose history forms the subject of this sketch, was operated upon in the night, after suffering for some days with obstructive symptoms; he made a splendid recovery, the bowels moving normally the day after the surgical procedure.

After describing his case, the author takes up the history and embryology of the diverticulum. Next a lengthy description is given of the many ways in which this organ may cause obstruction of the bowel; certainly a most instructive chapter, and one which shows no little research.

Halstead has collected the histories of sixty-nine of these cases, and finds that the mortality has been 68.1 per cent.; of these fifty-seven were subjected to operation, and of this number, thirty-two died, giving a mortality of 59 per cent. In view of the statistics, the author is to be congratulated upon his success in the case above cited.

Two Cases of Cervico-Facial Actinomycosis.—THEVENOT (*Gazette des Hopitaux*, No. 73, 1902).—These two cases which occurred in Lyons present such typical pictures that the author considers them worthy of reproduction here. The first is that of a young woman in whom the disease attacked the tissues in the tempero maxillary region. It was supposed that the infection occurred through a diseased tube, and on account of the lesion being tubes the surgeon refrained from operative treatment. However, with the administration of iodide of potassium the patient so far recovered at the expiration of a few weeks that she was able to return home and resume her household duties, although not fully recovered.

Excellent cuts render the appearance of this, as well as the case described below, much clearer than any written description can.

CASE 2.—The disease here attacked the anterior portion of the neck in the hyoid region of the left side, and spread secondarily extensively through the skin of the neck. The enlargement has a woody feel, presents very small openings through which a sero-purulent fluid exudes, and in this latter swim many of the characteristic green granules—in fact, the picture here was so clear that the diagnosis was fully established before the employment of any laboratory methods by way of treatment. The lesion was liberally incised, whereupon the patient was so far improved under the influence of iodide of potassium that he was dismissed from the hospital at the end of a few weeks with a very small cavity.

In referring to the diagnosis in such cases the author states that the odor is so far characteristic as to aid greatly in determining the nature of the disease.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Exophthalmic Goitre by Means of Antithyreoidin.—SCHULTES (*Munchener Med. Wochenschrift*, 1902, No. 20).—There is reason to suppose that the function of the normal thyroid gland is the secretion of a juice whose province it is to neutralize and render inert a poisonous substance produced somewhere in the body and circulating in the blood. Where the thyroid is inactive, or has been extirpated, this poisonous substance circulates unneutralized and produces the condition known as myxedema. Believing that in exophthalmic goitre we have an excessive activity of the thyroid gland, and a hypersecretion of the above mentioned juice, attempts have been made to throw into the circulation of such patients more of the unknown substance which it is the province of the thyroid juice to neutralize. Led by this theory, Ballet and Enriquez injected the serum of thyreoidectomied dogs into the circulation of patients with exophthalmic goitre. Burghardt used the blood of myxoedematous individuals, while Lanz advised the drinking of milk obtained from thyreoidectomied goats. Finally, Moebius has urged the use of his antithyreoidin, a serum obtained from the blood of sheep that have been deprived of their thyroids. Dr. Schultes, of the Sanitarium Illenau, reports a case of exophthalmic goitre treated with this antithyreoidin, as follows:

The patient, a woman, forty-nine years old, began four years ago to suffer from cardiac palpitation, soon followed by exophthalmus and struma. During the past three months the above symptoms have grown much worse, and a severe tremor of the hands has appeared. Recently psychical changes were observed, and December 12, 1901, a violent acute psychosis forced the removal of the patient to Dr. Schultes' sanitarium. The patient was confused, had vivid hallucinations, forced movements, clouded sensorium, rapid change of moods, etc. Nine days later the serum treatment was begun. On the first day she received 0.5 g. three times daily; the dose was increased 0.5 g. every day. The serum was given by mouth, at first in sherry, later in raspberry juice. Eight days later the patient was more quiet and the cardiac action less frequent, while on the fifteenth day she was psychically much improved. On the twenty-fourth day (thirty-three days after the beginning of the psychosis) her consciousness was clear; she was cheerful, had no subjective distress of any sort, no palpitation, pulse quieter. Even the neck had grown smaller. Six days later the pulse was still slower and the neck smaller, the thyroid had grown soft, the tremor had disappeared. When, however, the administration of the serum was stopped, both pulse-rate and struma increased once more. The serum was again given (2 g. t. i. d.), whereupon the pulse became quiet and the thyroid smaller; one week later the patient was discharged cured.

A single case like the above does not of course permit a final judgment as to the efficiency of the serum in this disease. Nevertheless the psychosis, which clearly belongs to the type of acute mania, was evidently and rapidly benefited by the treatment. When a psychosis of such severity, which usually persists for months, is cured within four weeks, and when at the same time the other accompanying disturbances are entirely cured, we have good reason to infer that the serum itself neutralizes or causes the rapid elimination of whatever has produced the disturbance. Hand in hand with the subjective improvement there appeared a softening and diminution of the goitre, an improvement in the cardiac action, a disappearance of the tremor; the exophthalmus alone remained uninfluenced. The serum is worthy of further trial. Unfortunately its cost is still excessive.

Treatment of Hemorrhoids.—THIELE (*Deutsche Med. Wochenschrift*, 1902, No. 22).—Some years ago, Tillmanns advised the injection into hemorrhoids of carbolic acid. Thiele has found the following modification very efficient in a considerable number of cases: The patient is given a cleansing enema, and is asked to press out the hemorrhoids. The anal region is then washed with soap and ether, and finally with a milky antiseptic solution. A hypodermic syringe is filled with a solution consisting of one part pure carbolic acid and two of glycerine. Into the smaller nodules one to two minims are injected, into the larger ones, three to five. Before puncturing a hemorrhoid it is important to make sure that none of the carbolic acid mixture is clinging to the outside of the needle; otherwise necrosis of the mucous membrane may take place. Large hemorrhoids may be injected in two or more places. After-treatment: Rest in bed for two or three days; liquid diet; if necessary, cocaine suppositories or small doses of opium.

Yohimbin (Spiegel) Impotence.—EULENBURG (*Deutsche Med. Wochenschrift*, 1902, No. 22).—Most cases of neurasthenic impotence react very favorably to yohimbin administered by mouth. Very obstinate cases may be treated with benefit by means of subcutaneous injections of the drug, sometimes with marked, always with some, benefit. He uses a two per cent. solution in distilled water, of which but little should be put up at a time, and which must be kept in bottles of dark glass. At first half a syringe (= 0.01 yohimbin) is injected daily, usually in the inner aspect of the thigh; the dose gradually rises to 1 g. (= 0.02 yohimbin). At first the injections are given daily; after the effects begin to show themselves, they are given only every two or three days. After twenty injections have been given, the use of the drug should be stopped for some time. Eulenburg's success with yohimbin has been so striking that he considers all other medication superfluous in neurasthenic impotence.

Selected Prescriptions (*International Clinics*, xii, vol. 2).—The second volume of this year's *International Clinics* contains, among many others, the following useful prescriptions:

In the persistent diarrhea of advanced tuberculosis, the following prescription is said to give good results where other means have failed:

℞ Ichthoformi	3 ss
Tannalbin, ...	
Bismuth subgall.	aa 3 j
Codeinæ	gr. iss
Ol. menth. pip.	m iss
M. et divid. in chart. No. vj. Sig.—One powder every three to six hours,	
according to indications.	

For the cases of chronic bronchial catarrh in the old, which are quite as apt to prove annoying in the summer as well as in the winter, Dr. Burney Yeo recommends the following combination:

℞ Ammon. carbonatis, ...	
Sodii bicarb.	aa gr. xl
Tinct. opii camp.	fl. 5 iv
Spt. chlorof.	fl. 3 iss
Infusi senegæ.	q. s. ad fl. 3 viij
M. Sig.—Two tablespoonfuls every five or six hours in hot water.	

The water should be used as hot as it can be borne, since if given in luke warm water the mixture will produce vomiting.

Prof. George Dock, of Ann Arbor, recommends the following prescription for acute rheumatism:

℞ Sodii salicylat.,
Sodii carbonat. aa ʒ ij
Aq. camphoræ q. s. ad fl. ʒ vj
M. Sig.—One tablespoonful in water every hour.

In muscular rheumatism the salicylates are seldom of any benefit. Gentle rubbing and mild counter-irritation are always indicated. The following formula has given great satisfaction in French hospitals:

℞ Spt. camphoræ fl. ʒ iss
Spt. terebinth fl. ʒ iss
Chloroformi fl. ʒ ij
Menthol ʒ j
Bals. Peru fl. ʒ iss
M. Sig.—Apply with gentle friction.

So many proprietary preparations to be used as mouth-washes are on the market, and are being pushed so sedulously on the physician's attention, that most doctors will be glad to be able to prescribe an efficient mouth-wash without the necessity of having recourse to some much-advertised preparation. The following is from *Merck's Report*, and is both antiseptic and palatable:

℞ Formalin m v
Tinct. benzoini fl. ʒ iij
Tinct. myrrhæ fl. ʒ j
Ol. menth. pip m iij
Ol. anisi m ij
Ol. cassiæ m j
Ol. cinnamomi m xv
Alcoholis fl. ʒ ij
M. Sig.—Use as mouth-wash once or twice daily.

A New Apparatus for Dry Cupping.—RUBINSTEIN (*Therap. Monatsh.*, 1902, No. 6).—A new cupping glass has laterally a tube provided with a stop-cock and connected with an aspirator. The cup is applied and the air exhausted by means of the aspirator. The stop-cock is then closed and the aspirator taken off. Among other advantages, the danger of burning the skin is avoided. The apparatus may be had of Windler, in Berlin.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

R. B. H. GRADWOHL, M. D.

Anti-Staphylococcic Serum.—DOYEN (*Le Progrès Medical*, August 2, 1902).—Doyen presented before the Academy of Medicine of Paris a new anti-staphylococcic serum. It is an albuminous fluid, which causes cessation of pain and swelling within a few hours after injection (dosage of 5 to 10 c.cm.). Doyen compares its rapid action to that of the anti-diphtheritic serum. Doyen cited cases in great number of cures and amelioration of symptoms, furuncles, anthrax infection (?), staphylococcic angina, broncho-pneumonia, osteomyelitis, and in general all infections where the staphylococcus predominates over other bacteria present. He claims that in cases of diphtheria complicated with a staphylococcus infection, the results have been very good.

Nothing is stated concerning the method of preparation or the separation of the toxins, etc.

A Simple Form of Monochromatic Illuminator for the Microscope.—A. M. EDWARDS (*American Monthly Microscopical Journal*, June, 1902).—Edwards describes a cheap and effective method of making a monochromatic illuminator for the use of the microscopist. A vial is taken which has flat sides. Such a vial is extremely common, and can be obtained from any pharmacist. Use a vial of about two ounces capacity. The bottle is filled with water containing any aniline blue. Put it between the source of light (sunlight or gaslight) and the microscope mirror. The most difficult object, as the *hyalodiscus subtilis* or even *Suriella gemma*, seems to start out when thus viewed.

Transplantation of Tumors.—LEO LOEB (*Journal of Medical Research*, June, 1902).—Loeb reports a series of interesting experiments on the transplantation of tumors in rats. He found that sarcomata in different rats showed some structural differences based on differences in the cells, on differences in the formations of fibers and in the degeneration processes which take place. These differences were present, and were reproduced throughout the transplantations. Many peripheral sarcoma cells remain alive during the first few days after transplantation, and they mix with the surrounding connective tissue cells. It is very probable that these peripheral sarcoma cells give rise to the tumors after transplantation. The growing sarcoma has the power of penetrating into the central necrotic part of the transplanted piece, which becomes liquefied under the influence of proteolytic ferments. Also necrotic tumor tissue around thrombotic blood vessels becomes dissolved. In both series of transplantations which Loeb worked out, pieces of tumor which were infected at the time of the operation frequently gave rise to the growth of sarcomata. Local conditions determine in some measure the fate of a tumor. In one series, secondary nodules were frequently formed if ulceration in some part of the tumor had taken place. A series of experiments was undertaken to determine how long pieces cut from tumors could be kept on ice, and yet develop sarcomata after transplantation. Pieces kept on ice for one, two and five days developed in each case several tumors.

Experiments on the influence of the Roentgen rays were begun. After seven exposures of ten minutes each the sarcoma cells continued to multiply by mitosis. In the center of the tumors, degenerative softening was present.

Mast cells present in the tumor were successfully transplanted. Their later fate depended on the fate of the transplanted tumor. Where the glands remained alive, the mast cells also remained alive and underwent similar variations in the number of their granules as the mast cells of the original tumor.

On Tumor Transplantation and Inoculation.—M. HERZOG (*Journal of Medical Research*, June, 1902).—Herzog tried a number of experiments on the transplantation of tumors into rats. He states that he has never succeeded in reproducing carcinomata or sarcomata in rabbits or guinea-pigs by the injection of triturated or filtered human material, subcutaneously, intra-peritoneally or into the anterior chamber of the eye. He denies the finding of Mayet (*Gaz. Hebd. de Med. et de Chir.*, January 19, 1902), who claims to have reproduced carcinoma in white rats by the injection of a glycerin extract of human aseptically macerated cancer tissue.

Herzog had more success with the injection of sarcomatous material originally from a white rat (a descendant of the same animal used by Loeb, whose paper is abstracted above). Of seventy or eighty transplantations made, all except fifteen were successful. Sometimes the implanted tissue led rapidly to the formation of a large tumor, so that one of the size of a large walnut or a

small apple had been formed in from four to five weeks. Inoculations made from non-infected tumors on the usual culture media were always negative. Attempts to transplant or inoculate the tumors to rabbits were negative. Experiments made with a view of producing a tumor from absolutely cell-free substances derived from the sarcomata were uniformly unsuccessful. These experiments were made with a germ-free emulsion of the tumor, and also with fluid obtained through the agency of collodion sacs, which had been transplanted either with a fresh piece of tumor into an animal or else by directly placing the sac within a tumor mass in the animals. No cultures were developed from the fluid obtained through the medium of collodion sacs, nor have any of the rats so treated developed a tumor.

New and Simple Media for the Differentiation of the Colonies of the Typhoid, Colon and Allied Bacilli.—PHILIP HANSON HISS (*The Journal of Medical Research*, June, 1902).—Hiss's interesting paper represents the continuation of his well-known researches on semi-solid media for the differentiation of the typhoid and colon bacilli, which appeared in the *Journal of Experimental Medicine*, 1897, Vol. 2, No. 6. At that time he gave the formulæ for two media, the one a plate medium and the other a tube medium, in which he claimed typhoid and colon bacilli grew characteristically. These media, as the editor can state from personal experience, were quite difficult to make, owing to the delicate reaction, etc. To overcome this disadvantage, Hiss tried a number of different media without regard to the reaction, and arrived at the conclusion that a medium of the following composition would suffice as a method of differentiating the typhoid from the colon and other similarly-appearing bacilli: agar, fifteen grammes; gelatin, fifteen grammes; Liebig's extract of meat, five grammes; sodium chloride, five grammes; dextrose, ten grammes, one thousand cubic centimeters of distilled water. This is cleared by the addition and coagulation of the whites of two eggs, and filtered through absorbent cotton. Its reaction is usually about one and two-tenths per cent. acid, and no acid or alkali need be added. On this medium the typhoid bacillus grows in irregular-shaped colonies with the formation of threads; the colon colonies remain more regular, and there are no threads. The medium used for tube cultures consists of agar, five grammes; gelatin, eighty grammes; Liebig's extract of meat, five grammes; sodium chloride, five grammes; dextrose, ten grammes; distilled water, one thousand cubic centimeters. It is cleared with the addition and coagulation of the whites of two eggs, and its reaction should be one and one-tenth per cent. acid. In a tube of this semi-solid medium, the typhoid bacillus produces uniform turbidity at 37° C. in eighteen hours. The colon cultures do not give uniform clouding, and besides form gas.

Typhoid bacilli, in this way, can be differentiated physiologically from the colon bacillus and most allied forms. Hiss states that his media are useful in separating typhoid bacilli from urine and feces. He has used the various modifications of this method for two years, and comes to the conclusion that the formulæ given above are of the greatest utility in working with these closely-resembling species. Experimentally, he easily separated the bacillus dysenteriae from the typhoid bacillus by the use of this method. He claims that the Gaertner group, represented by the Gaertner bacillus enteridis, as well as the para-colon group, the bacillus typhi murium, the bacillus psittacosis, the bacillus icteroides (Sanarelli) and the aerogenes group can easily be identified by this method.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

On Puerperal Aphasia, with an Analysis of Eighteen Cases.—M. A. MCINTYRE SINCLAIR (*Lancet*, July 26, 1902).—The author includes in this paper, under the term of puerperal aphasia, also cases of aphasia occurring during the latter months of pregnancy. In his opinion, there is one factor commonly underlying both forms, namely: the altered condition of the maternal blood for a certain period before and after delivery, and the greater tendency of the blood at this time to undergo clotting within the vessels. The writer observed the following case: A woman, aged twenty-seven years, with no evidence of cardiac or vascular disease, was in the latter half of the seventh month of her fourth pregnancy suddenly affected with total loss of speech, which lasted for about an hour. Later in the same forenoon she had a second very transitory loss of speech. At 3 P. M. of the same day, embarrassment of speech again manifested itself. At 9 P. M. the attack culminated in total loss of speech for the third time. The next forenoon the author found the patient in a condition of complete motor-aphasia without agraphia. She could not articulate the simplest words. The next day a distinct paresis with loss of sensation was detected in the right upper extremity. Speech returned slowly from about the third day after the attack. Coincidentally with the improvement in speech the numbness and paresis of the right upper extremity disappeared. Ten weeks later she was confined of a healthy, full-term child.

Based upon a study of seventeen similar cases recorded in literature, the author arrives at the following conclusions: The main causes for puerperal aphasia are those of nervous and those of vascular origin. While Poupon, a French writer, who dealt with the subject extensively, has laid much stress on the nervous causes, Sinclair is inclined to regard cerebral thrombosis as the more prominent factor in the production of this affection. The prognosis of puerperal aphasia is generally good. A recurrent attack, however, is a serious matter and its prognosis grave. In order to avoid a recurrence, Poupon advised avoidance of further impregnation. Sinclair in this paper goes so far as to recommend interruption of pregnancy at the earliest possible moment in every patient who had symptoms of aphasia during preceding pregnancy. The treatment of puerperal aphasia depends to a great extent on the nature of the lesion, and the attack must be dealt with on the same lines as guide us in the treatment of any cerebral affection.

Prognosis and Treatment of Criminal Abortion.—MAYGRIER (*L'Obstetrique*, July 4, 1902; rev. *J. A. M. A.*, August 23, 1902).—The writer states that he has observed six hundred and ninety-eight cases of abortion supposed to be spontaneous. Four of the women died, that is, 0.57 per cent. During the same period he had occasion to treat forty-four cases of criminal abortion and the mortality was 56.8 per cent., that is, only nineteen women recovered. He concludes from his experience that in presence of an complete or incomplete abortion, due unmistakably to mechanical measures, or even when such abortive measures are suspected, and in absence of any complication, early evacuation of the uterus is required. If septic accidents have already developed, evacuation is still more urgent and general measures are also indicated. The contents of the uterus should be removed with the fingers. If the curette is necessary it should always be guided by the finger, as the walls of the uterus are softened by the fact of the infection. Terminate by swabbing with feathers as recommended by Budin and tamponing with iodoform gauze. The essential point is the promptness of the intervention, before manifestations of infection have time to develop.

A Note on the Life and Vitality of Spermatozoa.—ROSTER (*Boll. de Soc. Tosc. di Ostet. e Ginec.*; rev. *Journ. of Obst. and Gyn. of Brit. Emp.*, August, 1902).—The writer has made a number of observations upon the life of spermatozoa in the human vagina, and upon their ultimate fate. He concludes that they progress toward the ovum by the active motion of their tails, and by chemiotrophic stimulation set up by the alkaline mucus in the vagina. He finds that their life is much longer in the cervical canal than in the vagina, and that coition sets up in the cervix uteri a very active emigration of leucocytes which aid in the destruction of the spermatozoa. In his observations he frequently saw the heads of spermatozoa and complete spermatozoa in leucocytes or in cells of squamous epithelium.

Appendicitis or Torsion of an Ovarian Cyst.—P. BOTHEZAT (*Revista de Chir.*, 1901, No. 6; rev. *Centralbl. f. Gyn.*, 1902, No. 30).—The author deals with various pathologic conditions which may be mistaken for appendicitis, such as circumscribed peritonitis, tumors of periappendicular lymph-glands, epiploitis in the region of the cecum, inflammations of the uterine appendages, torsion of a hydrosalpinx or ovarian cyst, etc. In a case of his own, concerning a girl of thirteen, post-mortem revealed torsion of a dermoid cyst with beginning gangrene instead of an appendicitis, suspected as the cause of death. The writer cites from literature two similar cases in which operation has been performed successfully. From a careful study of the literature the author concludes that there are no symptoms which would insure the correct diagnosis in every case of this kind, but the history, the condition of the tumor, and a careful examination both through vagina and rectum should arouse the suspicion of the physician, lest he might be concerned with something other than a simple inflammation of the appendix. Only early operation offers a chance of recovery.

A Suggestion for the Treatment of Enuresis in the Female.—G. C. PARNELL (*Brit. Med. Journal*, January 11, 1902).—The treatment advocated by the writer is the application of a strong solution of silver nitrate (five to ten per cent.) to the neck of the bladder and the urethra. The utility of this treatment was thoroughly tested by the author, and the results would seem to encourage a wider exploration of this simple application.

On the Formation of Hematoceles.—O. BUSSE (*Monatschr. fuer Geb. und Gyn.*, July, 1900).—What leads in cases of ectopic pregnancy to the formation of a hematocele is the question dealt with by the writer. The experience at post-mortem examinations, made shortly after intra-abdominal operations have been performed, and experiments carried out in animals, have conclusively shown that the normal peritoneum is capable of resorbing speedily a considerable amount of fresh blood. The lack of resorption—*i. e.*, the formation of a hematocele in ectopic pregnancy—is, in the opinion of the author, due to the following two causes: First, the blood entering the abdominal cavity is not liquid, but coagulated and mixed with shreds of tissue coming from the tubal contents; secondly, the peritoneum has lost its resorptive power on account of inflammatory processes, which, as a rule, precede the development of an ectopic pregnancy.

Ovarian Pregnancy, with Report of a Case.—JOHN F. THOMPSON (*American Gynecology*, July, 1902).—The writer reports an unimpeachable case of an ovarian pregnancy. The specimen removed per laparotomy consists of the left tube and the left ovary. The ovary is somewhat enlarged and presents on the inner and upper border a red tumor of about the size of a horse-chestnut. The unruptured tumor contains a fetus, 1.2 cm. long, and along its inner wall a layer of tissue, which, under the microscope, is found to be typical chorion. Microscopical examination of the tube is negative, neither decidua nor traces of villi can be detected.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

The Treatment of Lumbar Spinal Abscesses.—JAS. K. YOUNG (*Internat. Med. Mag.*, July, 1902).—Those abscesses to the outer side of the erector spinæ only need opening or aspiration. In the internal lumbar abscess which fills the iliac fossa the opening should be made by careful dissection a half inch to inner side of the anterior superior spine, the external and internal oblique muscles being divided, and the abscess after being opened in front should have a counter-opening at the posterior superior spine. A through-and-through tube is inserted, the cavity irrigated with water and an iodoform emulsion inserted. If the abscess has pointed below Poupart's, the above operation is done, as well as an opening in Scarpa's triangle.

The End-Results of the Bloodless Method of Reduction in Congenital Dislocation of the Hip.—P. REDARD (*Zeits. f. Orthopaedische Chir.*, Band x, Heft 1).—There are fifty cases, most of them observed for three or four years, some for only six months. Forty-three were of one side, seven were double dislocations. In fourteen of these cases a true anatomical reposition was obtained, as was shown not only by the disappearance of the shortening, but also by the stereoscopic X-ray picture, which is the most perfect method of determination. The ages between two and seven years are more favorable for the bloodless method, but it can be accomplished in older people; but operations above these ages are usually very difficult, and there is usually a transposition. Transposition was obtained in twenty-six of the forty-three one-sided cases, coming on not immediately after an attempt at reduction, but usually during the first month after operation, in those over seven years of age, following a hard reduction maneuver, a faulty placing of the bone in strong outward rotation, and failure of plaster cast to hold it. Also certain cases are found in which the bone socket is rudimentary and cannot receive the normal-sized bone head. Twice relaxation was obtained, but later a transposition was secured. No accidents occurred during the reduction. The functional results in eight one-sided cases were perfect. In thirty cases the gait was much improved. Those cases where transposition was obtained showed an improvement of their function.

The Diagnosis of Hip Disease; an Analysis of Ninety-five Cases.—ROBT. W. LOVETT (*Bost. Med. Surg. Jour.*).—The cases were variously diagnosed, tuberculosis, "hip disease," being most frequent, and the paper shows that many cases likely to be classed as hip disease are not tuberculous, but entirely different affections. Excision was so rarely practiced, only as a last resort, that clinical symptoms and X-ray pictures alone determined the ultimate diagnosis. Fifteen cases were rejected, seven because they were old cases, eight because of insufficient data for diagnosis. An interesting group of twenty-one cases, which recovered after a transitory affection, therefore ultimately considered not tubercular, affords the conclusion that marked atrophy, night-cries, pain in the knee, severe muscle spasm, loss of gluteal fold, apparent shortening and fixation in deformity are not inconsistent with the presence of an affection which will speedily recover. That, as in the beginning, a third were diagnosticated tubercular without question, shows that this diagnosis cannot be made with any certainty. That the pathology of these non-tubercular cases must be a matter of conjecture, but some conform to Koenig's synovial type of acute infectious coxitis, others traumatic and rheumatic synovites, or epiphyseal hyperemia. These twenty-one cases recovered in from one week to four months, and if reported in

the light of their early symptoms, fourteen would have been considered hip disease, and the recovery percentage, with little or no treatment, would be one hundred.

A group of fourteen serious affections, not obviously tubercular, were almost all unqualifiedly diagnosed as such on admission. They eventually resolved themselves into two infantile paralysis, two osteomyelitis, one coxavara, two arthritis deformans and seven questionable cases, which are considered not tubercular. The proportion of osteomyelitis cases is smaller than the statistics of European clinics.

The last group of forty-five cases were in the beginning considered tubercular and eventually proved to be. It is shown accordingly that all hip cases are not "hip disease," and that some more certain diagnostic criterion must be found than night-cries, atrophy, spasm, etc. Of all the signs given "thickening of the trochanter" proved to be the most reliable. The X-ray is also of great value in early diagnosis.

Congenital Dislocation of Both Hips—Lorenz Method for Reduction.—ED. H. OCHSNER (*Illinois Med. Jour.*).—A child of four years with both hips dislocated was reduced by Lorenz method, which was not successful until the third attempt, when both hips remained in place, and were functioning normally after about two years in a plaster cast. After being well and using her extremities perfectly for several months the child died from an intestinal disturbance. At post-mortem the pelvis and hips were secured, which, when dissected, showed the heads of both bones large, but well adapted to the normal acetabula in which they rested, and the capsular ligament strong and hugging the head and neck closely. The ligamentum teres was wanting, or rather very small and unattached to the femur.

On the Remittent Limps of Hip Disease.—NEWTON M. SHAFFER (*N. Y. Med. Journal*, August 16, 1902).—This symptom, often misleading, is again emphasized, as it is frequently concluded that the early diagnosis of hip disease was made too hastily if the child is seen for the second time without a limp. The remission may occur several times before the symptoms become so pronounced that a diagnosis is made.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Improvement of Breast Milk and the Prolongation of Lactation.—T. S. SOUTHWARD (*Journal American Medical Association*, August 2, 1902) calls attention to the importance of having mothers nurse their children whenever this is at all possible. The fact that there is not enough milk to entirely nourish the child is certainly no excuse for taking the child altogether from the breast.

More attention should be paid to the mothers to increase the amount of milk. The mother's diet should be abundant and nutritious. Of fluids which tend to increase the lacteal secretion there are four:

Milk, of which the mother should drink a quart or more in the twenty-four hours.

Thin cornmeal gruel, prepared with or without milk, and well cooked.

Water, which should be taken freely.

Cocoa, which should supersede tea and coffee as a beverage.

The nursing mother should take at least three quarts of fluid per day.

Beer has but little nutritive value and often disturbs the infant.

Constipation and anemia in the mother should be corrected, if they exist.

If there is evidence of too great preponderance of proteids in the milk, the mother should remedy this by walking in the open air, the amount of exercise being gradually increased.

If the child does not thrive on the breast milk, supplementary bottle feedings should be given, but the breast milk should not be discarded at once, and every effort should be made to improve the breast milk, which is, after all, certainly superior to any modified cow's milk or artificial food.

Calomel in Diseases of Children.—SCHOEN-LADNIEWSKY (*Jahrbuch fuer Kinderheilk.*, August, 1902) believes that the value of this drug is not sufficiently recognized. As an intestinal antiseptic he believes it to be without a peer. In flatulent colic, acute dyspepsia and acute gastritis he has had the best possible results from its use. In cholera infantum it is of great value. So too in catarrhal icterus—the course of which, he thinks, can be materially shortened by the use of the drug.

The author cannot see that calomel does any good in scarlet fever, measles, typhoid or dysentery.

As a diuretic for children, he gives calomel a high place. In the ascites of nephritis and of chronic valvular lesion it is also of much value. As an antisymphilitic the drug is, of course, of value. The author never uses calomel as a laxative pure and simple, believing that he gets better results with other drugs.

It should always be ordered in broken doses and dispensed in powders containing cane (not milk) sugar.

The Management of Rheumatic Children.—F. M. CRANDALL (*Archives of Pediatrics*, August, 1902) calls attention to the fact that in children the symptoms of rheumatism are not massed together, as in adults, but are more frequently distributed through months or even years. Growing pains, slight joint manifestations, attacks of chorea and endocarditis occur at various times, so that the "history of a rheumatism may be the history of a whole childhood."

Therefore, according to the author, it is not sufficient to treat the symptoms as they arise. Preventive measures are especially important here. The management of the rheumatic child may be considered under the four headings of clothing, exercise, diet and medication:

1. *Clothing.*—Rheumatic children should wear flannel at all seasons; during the summer it may be of thin texture; cold and wet feet should be especially avoided.

2. *Exercise* must be carefully attended to.—Exposure on days of damp east winds or on slushy days must be avoided.

3. *Diet* should not be too restricted, except that the sugars and starches should be limited. In view of the tendency to anemia in rheumatic children, the diet should be generous and nourishing. The old notion as to the contraindication of nitrogenous foods is no longer held. As a prophylactic measure, adenoids, if present, should be removed and the throat should be watched.

4. *Medicinal Treatment.*—By the use of the salicylic compounds over long periods of time we can do much to prevent outbreaks of rheumatism. After an attack the salicylate should be used for one week of each month for a year or more. With reference to the treatment of the acute attack, the author prefers the salicylate to the alkaline treatment. Comparatively large doses are required at first—five grains every three hours to a child of six, forty grains a day—not to be given on an empty stomach. The rapid development of anemia should be combated by the early use of iron. Warmth to the afflicted joint is usually grateful. Rest in bed is essential, because while this does not absolutely prevent cardiac involvement, it will do more to that end than any other means we possess.

Hydrocephalus—Cure by Operation.—HUNTER (*Pediatrics*, August 15, 1902) discusses the subject of hydrocephalus internus and describes an operation that he did with excellent results. This operation was done after the method of Bruce and Stiles, which consists in producing an opening, or artificial canal, between the lateral ventricles and the subdural and subarachnoid spaces. This patient was a two-months'-old child with enormously distended head, circumference twenty-one inches; child was totally blind.

A single curved incision was made, connecting the points of the lower external angles and the frontal fontanelle, and the flap was turned down. The dura was then incised and three or four strands of catgut were pushed beneath the dura. The other ends of the strands were pushed (with small forceps) into the lateral ventricles. As soon as the ventricles were reached, large quantities of fluid gushed out. The dura was then closed and the flap sutured into position. Marked improvement followed the operation. Eight weeks afterward a second operation became necessary because of reaccumulation of fluid. The same operation was done, except that larger catgut was used and a greater number of strands inserted, so that absorption should not go on too rapidly. After this the child rapidly improved and has remained well up to the present time, having shown normal development in the meantime. There has been no reaccumulation of the fluid.

Some Causes of Death in Diphtheria.—BARBIER (*Rev. Mens. des Mal. de l'Enf.*, August, 1902) has analyzed his fatal hospital cases of diphtheria, which were examined very carefully as to the existence of cardiac thrombosis, and as to the co-existence of tuberculosis. In 1901 there were forty-five autopsies in patients dying of diphtheria—in twenty-three of these cardiac thrombosis (*not* preagonic) existed. The seat of this thrombosis was most frequently the right auricle, though quite often the right auricle and ventricle were involved. In twenty-one of the twenty-three cases clots were found in the cavities, the clots being organized and evidently not merely preagonic. Bacteriological examination was made in nineteen cases, eighteen times with positive results. The Klebs-Loeffler bacillus was found in pure culture three times; in the other cases there were mixed staphylo- and streptococci infection.

This cardiac thrombosis is nearly always an accident of convalescence—occurring as a rule after the local manifestations have disappeared. It may occur as late as the fifteenth day.

The symptoms, which usually come on some time before death (though occasionally death is very sudden), are general waxy pallor and coldness of the extremities. The child lies perfectly quiet. At times slight cyanosis supervenes. The child then appears to suffer intense anguish, marked in its later stages by extreme agitation, usually without convulsions until the end comes. Treatment is of absolutely no avail.

With reference to tuberculosis, the author believes that the course of diphtheria is very unfavorably influenced by co-existent tubercular lesion; that in tubercular patients cardiac thrombosis is more common in convalescence.

The Various Forms of Icterus in Infancy.—SKORMIN (*Jahrbuch fuer Kinderheilk.*, August, 1902) contributes an exhaustive study to the literature on this subject.

He recognizes the following forms:

1. Benign icterus neonatorum—a resorption icterus. It begins in the second or third day of life and lasts until about the middle of the second week. In this form there are no biliary coloring matters *in solution* in the urine.

2. Septic icterus—occurring as a result of septic infection of the new born. The site of infection is, as a rule, the navel. The diagnosis is to be made by the concurrence of the symptom complex of sepsis.

3. Winkel's disease. Here there is the coincidence of icterus and cyanosis with hemoglobinuria. This form (which is often fatal) is looked upon as infective in its origin, the infection starting from the gastro-intestinal tract.

4. A severer form of infective icterus—coming from the gastro-enteric tract—has been described by Lesage and Demelin.

5. Icterus after hemorrhage. This is a rare form and is explained by absorption of the hemoglobin from the extravasated blood, its transportation to the liver by the blood stream, thus secondarily giving rise to jaundice.

6. Catarrhal icterus. This form is very rare in infancy.

7. Toxic icterus. A few cases have been reported—*e. g.*, after accidental poisoning with carbolic acid and with resorcin.

8. Icterus caused by acute yellow atrophy of the liver. Very few cases of true acute yellow atrophy have been reported in infants, but the disease does doubtless occur at this time of life.

9. Icterus may occur as the result of congenital defect or of congenital occlusion of the biliary passages. There have also been reported a few cases of congenital cirrhosis of the liver with icterus.

10. As a result of hereditary syphilis there occurs at times a congenital peripylephlebitis—with resulting compressions of the portal vein—and icterus.

An extensive bibliography is appended to the article.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

The Pathology of Acute So-called Myelitis.—H. DOUGLAS SINGER ('Brain,' Summer, 1902).—This is a suggestive article calling attention to the importance of syphilis in the etiology of the disease commonly known as acute myelitis. In two cases the chief pathological change was found to be in the blood vessels in the form of a syphilitic arteritis. In a review of nineteen cases of myelitis, coming under the author's observation during the last two years, a history of syphilis was found in fifteen. The interest of this investigation at the present moment lies in the fact that in seventeen out of nineteen cases there was either syphilis or senile degeneration, the two most potent factors in the causation of thrombosis of arteries. The following are noted as conclusions: 1. So-called acute myelitis is found on microscopic examination in the majority of reported cases to be not inflammatory, but due to thrombosis of spinal vessels. 2. That by far the most common cause of this thrombosis is syphilitic arteritis, and that senile arterial degeneration forms a considerable proportion of the remaining cases. 3. This view as to the pathology is confirmed clinically by the analogy between this disease and cerebral thrombosis.

Poliomyelitis of the Adult.—E. W. TAYLOR (*Jour. Nerv. and Ment. Dis.*, August, 1902).—The occurrence of true poliomyelitis in an adult with an acute onset, under conditions suggesting an infection, is no longer disputed. There is at the same time much confusion regarding the relationship of this disease with some others, notably Landry's paralysis. The case which forms the basis of this article is a typical picture of the disease as it is usually found in an adult—"unexplained ill feelings, with rise of temperature, followed by paralysis, involving all four extremities, but predominantly the legs, which reaches its height in from one to three days and then tends to improve; some subjective disturbance of sensation, passing in a few days, leaving a condition essentially

of motor paralysis of the muscles of the trunk and of the extremities, without at any time disturbance of consciousness." A summary of the chief pathological findings in the nervous system are essential limitation of the pathological process to the spinal cord, chief, though not exclusive, localization in the ventral horn, evidence of primary inflammation with secondary degeneration and destruction of nerve cells, marked degeneration of peripheral nerves. A number of other cases are cited, and the literature of the subject is carefully analyzed.

Conclusions.—The following conclusions as a practical clinical guide and as a working basis for further study seem justified:

That adult poliomyelitis is a well-marked clinical affection, characterized by initial fever, rapid onset of usually extensive paralyses, motor in type, with a tendency toward recovery, though often resulting fatally, from respiratory paralysis. That the disease has frequently been confused with multiple neuritis and so-called Landry's paralysis.

That its anatomical basis is a primary inflammation in the distribution of the ventral arteries of the cord, leading to a destruction of nerve-cells.

That this inflammation is rarely sharply limited to the ventral horns, but extends into the dorsal gray matter, the surrounding white matter and at times into the oblongata.

That there is no sharp line to be drawn between these lesions and still more extensive ones giving rise to totally different clinical pictures—*e. g.*, encephalitis, poli-encephalitis, poli-encephalo-myelitis.

That, therefore, anatomically the disease is much less sharply characterized than it is clinically. That its final place must be determined by a study of its cause or causes, as related to various other degenerations and inflammations of the nervous system.

That from the practical point of view it is well to consider those cases poliomyelitis which show a flaccid atrophic paralysis of sudden onset, with definite anatomical changes limited to the ventral horns of the cord and their immediate vicinity.

Multiple Neuritis in Connection with Basedow's Disease.—DILLER (*Neurologische Centralblatt*, August 16, 1902).—Woman, aged forty-eight years, developed quickly the symptoms of Basedow's disease—pulse, tremor, exophthamo and neurasthenic symptoms. The thyroid gland was enlarged, pain developed in all the extremities with atrophy of the muscles, which reached a high grade. The patient died from exhaustion. The author explains the case to be the result of a fatal toxin originated by the thyroid gland which caused the symptoms typical of Basedow's in addition to the multiple neuritis.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. MCC. JOHNSON, M. D.

Surgical Intervention in Medical Nephritis.—POUSSON (*Ann. des Mal. des Org. Gen.-Urin.*, May, June, July, 1902).—The author reports eight operations upon six cases of chronic nephritis with two deaths, both of which were in the last period of Bright's disease. The four cases which survived have shown considerable amelioration of the condition. Three have so far improved as to be practically well, while the fourth, although the urine has resumed an almost physiological composition, still had some uremic symptoms when he left the hospital.

Pousson has collected thirty-three cases operated upon with a mortality of

two. It may seem a hazardous undertaking to attack a chronically inflamed kidney and contrary to former surgical axioms, yet with the aid of asepsis much of the danger is removed. It is clearly demonstrated that those cases of chronic nephritis that come to the dead-house are bilateral, and practically all of the kidney substance involved, but these are cases in the very latest stage of the disease, while those that come to the surgeon are susceptible of being unilateral, just as we find that in a diseased kidney it is not the whole kidney substance that is involved at first, but only spots here and there, separated by perfectly sound kidney substance.

Besides catheterization, pain upon deep pressure will aid in determining which kidney is most involved. If edema is greater on one side of the body than the other, it is of much diagnostic value. In one case of the author's, after operation upon the right kidney, edema on that side disappeared more rapidly than on the left side. The fact that the side most affected shows more edema finds its explanation in the hypothesis of Potain, who attributes the edema in the disease of Bright to paralysis of the capillary vessels under the influence of a reflex, which starting from the kidney is transmitted to them through the vasomotors. The operation upon one kidney and benefit following it influence for good the disease in the other kidney.

In addition to incising the kidney capsule along its convex border and drainage, Pousson adds fixation to the lumbar wall by one or two points of suture with catgut, although the method of nephrocapsotomy of Edebohls deserves consideration.

While the operations of cutting the capsule that the author and Harrison have done relieves the tension, and may act like the surgical intervention in glaucoma, yet the operation of Edebohls, by allowing the formation of new blood vessels, may keep up the improvement and lead to cure.

Hernia of the Bladder.—VOITURIEZ (*Ann. des Mal. des Organ. Genito-Urin.*, June, 1902).—From the writer's experience hernia of the bladder is by no means the rare condition it is generally considered, be it inguinal, crural, obturator, or perineal. The symptoms of this condition are in a certain number of cases sufficiently clear. In the primitive cystocele, or that in which there is no peritoneal investment, we find a tender fluctuating tumor when the bladder is filled with urine, but soft and flaccid when it is empty. Pressure upon the tumor creates a desire to urinate, while at the same time the cystocele partially disappears. The patient, too, finds difficulty in evacuating the urine and perceives that the tumor is more tender when he has a *besoin*, often contracting the habit of compressing the tumor while voiding his water. The hernia pouch may be emptied by manual expression after drawing the water with a catheter, or, if it enters the diverticulum, coincident with the subsidence of the tumor there is an emission of a large quantity of urine. Finally, after evacuating the bladder, intravesical injection will cause the tumor to reappear. Rectal touch discovers the prostate to be elevated, while the *bas-fond* of the bladder is against the pubis.

While the diagnosis may at times be difficult in secondary cystocele, or that which accompanies an intestinal hernia, yet one sign of considerable moment is that the tumor appears bilobar. An interesting complication of the condition is the formation of a stone in the herniated portion of the bladder.

These herniæ are of special interest in operations for the radical cure of intestinal hernia; for, unless recognized, the bladder might be wounded or opened. The author reports one case in which this accident happened.

Ulcer of the Bladder.—SCHMIDT (*J. A. M. A.*, July 19, 1902).—The most common ulcers are those in the base of the bladder of gonorrheal origin. In this condition, at the summit of spots of infiltration, the tissues give way and

thus form sunken ulcers as if perched upon a plateau. The ulcerated surface is covered with a whitish coating. The area of bladder mucosa between the ulcers is of a healthy appearance.

In non-gonorrheal cystitis we find ulcers in great numbers, close together, and involving the entire mucosa, while the parts between the ulcers are involved in the inflammation.

Tubercular ulcers are always small, and in their immediate neighborhood are small grayish-white nodules. Inflammatory reaction about the nodules is absent. They are commonly situated about the urethral orifice.

In necrosis from neoplasms the ulcer occurs in the most prominent part of the tumor, its edges are irregular and undermined, and immediately surrounding it hemorrhagic spots may be noted.

The solitary ulcer appears as if stamped out of a mucosa otherwise healthy. It is bright red and granulated.

The *ulcus cystoscopicum* occurs on the fundus or vertex of the bladder, has no inflammatory reaction about it, has the shape of the instrument that made it, and usually heals within fourteen to twenty-one days. The author doubts the syphilitic ulcer, and gives arterial thrombosis with consequent gangrene as a cause of perforating ulcer.

Bladder irrigations and instillations are not sufficient to cure ulcers. They should be curetted and cauterized, and this is most readily done through the operation cystoscopy.

In generalized cystitis this method is useless. The bladder should be opened and the entire mucosa curetted. In cystitis *dolorosa*, besides complete curettage, the bladder should be compactly tamponed, and the tamponade should be kept up until the bladder walls have lost their sensitiveness.

The author reports five cases of ulcer of the bladder; among them especially may be noted case V, one of tubercular ulceration, in which cauterization so improved the condition that the urine became clear, no germs could be found, desire and frequency were greatly lessened, and in six months the patient gained forty pounds in weight and cystoscopy was negative.

Modifying Injections in the Treatment of Tuberculosis of the Epididymis.—BOHDANOWICZ (*Ann. des Mal. des Organ. Genito-Urin.*, June, 1902).—Attention is called to the value of camphorated naphthol, after the method of Calot, as an injection in tuberculosis of the epididymis. However, its use is limited to the cases of abscess formation with adhesion to the skin. In the two cases reported, treated after this method, the diseased condition disappeared.

Treatment of Prostatic Hypertrophy Associated with Stone in the Bladder by Means of Litholapaxy and Bottini's Operation at One Sitting.—MEYER (*Annals Surgery*, July, 1902).—Quoting Chismore's sixty-one cases of modified litholapaxy in prostatics in support of the value of litholapaxy in prostatics, Meyer adds the Bottini operation for the relief of the obstruction, either doing the litholapaxy first (most usual), then the Bottini at one sitting, or vice versa (not usual). He reports three cases with most excellent results, two being done under spinal anesthesia.

Nephrectomy, Subsequent Nephrotomy and Finally Suprapubic Cystotomy.—FERGUSON (*Jour. A. M. A.*, July 5, 1902).—A boy, aged eight, two or three weeks after a fall developed a painful swelling in the right hypochondriac and lumbar region. As it seemed cystic, a trochar was introduced and fluid evacuated, later a urinary fistula developing. The X-ray showed calculi in both kidneys.

November 15, 1901, right nephrectomy was done, and on December 22d the left kidney was opened and a calculus removed. February 2, 1902, a stone was

removed from the meatus of the glans. March 7th a suprapubic cystotomy was done and a calculus extracted from the bladder. The patient is now free of pain and gaining in every way.

A Discussion of the Operative Treatment of Prostatic Hypertrophy.—LEWIS (*J. Cut. and Genito-Urin. Dis.*, July, 1902).—Various varieties of prostatic hypertrophy are considered and illustrated. The mode of operating should be selected according to the kind of hypertrophy, and the author clearly indicates which are most suitable for the suprapubic, the perineal or the Bottini method. It is interesting to note that he selects for the Bottini method cases of extreme debility, those with a bar or sessile obstruction of not too great dimensions, those with incomplete collar formation, and possibly those at the beginning of catheter life as a prophylactic against further obstructive hypertrophy.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Investigations on a Polymorphic Coccus, the Habitual Denizen and Parasite of the Human Skin.—AXEL CEDERCREUTZ (*British Jour. Dermatology*, August, 1902).—The discussion as to the exact relationship of the cocci found in various diseases of the skin and under normal conditions, has served to clear up a good many doubtful points in the bacteriology of the skin.

Mr. Cedercreutz has spent eight months in the laboratory of the St. Louis Hospital (Paris) under Sabouraud's direction, in the study of cutaneous pathology, and the present monograph is the result of his observations, so far as the cocci producing white or grayish cultures are concerned. He has carried out a series of investigations as to the morphological characters, their variations under different conditions, and the pathogenic properties of the organism in question, and arrives at very clear conclusions respecting the matter. The amount of confusion which has been introduced by the zealous endeavors of various observers to establish specific characteristics in the case of cocci which they have observed is well illustrated by this work. He says: "According to our opinion, the majority of the cocci of the skin described by authors range themselves under the category of the staphylococcus aureus or of this polymorphic coccus which we have studied, and the differences described are due to observations made at different stages of its evolution. For instance, it appears that this polymorphic coccus is the organism described by Demme (1886), Dahnhardt (1887), Claessen (1893), Bulloch (1895), Remlinger (1896), Whipham (1896), Class (1899), Berholm (1900), Whitfield (1900)."

The polymorphic coccus of Cedercreutz is the *micrococcus* of Unna, the *micrococcus* or *staphylococcus cutis communis* or *coccus butyricus* of Sabouraud, *staphylococcus epidermidis albus* (Welch), and Cedercreutz goes the length of advancing the hypothesis which has been suggested by other observers, that the distinction between the coccus producing yellow cultures and that producing the whitish or grayish cultures, which he has studied, is probably artificial and does not exist in actual fact. The following are some of the conclusions which the author states:

"In our opinion the flora constituted by the cocci of the human skin is far less complex than has been imagined by many dermatologists. The fact which has led observers into error is that on the human skin there exists a coccus liable to undergo great variations. These variations affect the appearance and characters

of the cultures as much as the form of the individual organisms. The variations which the cocci are capable of undergoing may be determined up to a certain point by varying the media in which they are cultivated. But the nature of the stock from which they have sprung also plays a certain role in the production of these changes. The color of the cultivations of these micro-organisms on ordinary gelose may vary through all tints, from milk-white to golden-yellow; and on gelatine the organism may produce cultures almost of a canary-yellow tint. The coccus grows well upon most of the ordinary media employed in bacteriology. It prefers, however, media which are slightly acid or neutral to those distinctly alkaline. The best temperature for its growth is from 30° to 40° C. The cultures develop slowly on gelatine at a temperature of 20° C. Gelatine is not liquefied under these conditions. Sown in gelatine which is maintained in a liquid condition in the incubator, the coccus usually produces the effect that the media does not liquefy when it is brought to the ordinary laboratory temperature, even after a considerable lapse of time. The coccus does not coagulate milk, or does so only after some time. In broth under anarobic conditions it does not produce visible growth, but maintains life for a long time in this media. The coccus shows considerable variation, both in size and in magnitude, varying from distinct spheres to flask-shaped elements. The diplococcus form is not infrequently assumed. The large variety of the organism developed under favorable conditions of growth appears to possess greater powers of resistance than the others. Examined in the suspended drop, no movement is observed except the ordinary Brownian movements. In preparations made from young cultures the organisms are not decolorized by Gram's method. The organism has very slight pathogenic effects upon guinea-pigs, mice or rabbits. When inoculated into the hair follicles of human subjects it produces folliculitis, which rapidly heals. In the pus of these lesions the cocci are usually surrounded by leucocytes, and under these circumstances are decolorized by Gram's method. The relations existing between this coccus and the staphylococcus aureus cannot yet be sharply defined. The morococcus of Unna, the staphylococcus cutis communis, is either this polymorphic coccus or is the result of an extraordinary close symbiosis between this coccus and a small coccus producing white cultures (staphylococcus?)."

Many dermatologists have described in more or less detail cocci which are certainly identical with this polymorphic coccus. Class has considered the organism as the pathogenic agent of scarlet fever, and has given a very good description, in which the morphological variations of the coccus are noted.

The "contagium of syphilis," cultivated and described by Von Niessen, has the greatest possible resemblance to this coccus.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Regarding the Question of a Glycosuria Resulting from an Otitis.—GRUNERT (*Archiv fuer Ohrenheilkunde*, 55 Band, 3 und 4 Heft).—The important influence which diabetes exerts on the course of an otitis media is well known, but our knowledge as to whether a glycosuria can be the result of an otitis media or its complicating brain lesion is very indefinite, and the literature on the subject is very limited. The author cites two cases of otitis in which urine examinations previously made showed no sugar to be present, while during the acme of the disease large amounts of sugar were excreted in spite of the fact that all carbo-

hydrates were withdrawn from the food. Both were cases of chronic otitis media. One was complicated by a diffuse purulent meningitis, as was proven by lumbar puncture. In the other there was an extra-dural abscess. Operative measures were applied in both cases, and after recovery the urine was free from sugar in spite of a mixed diet. One case was under observation for nearly five months, and during that time the urine was always free from sugar. The writer cannot give an explanation of the occurrence of the glycosuria in these cases, but believes it to be due to the action of certain toxins which originate in these pus accumulations. Sugar can occasionally be found in the urine during the course of an acute purulent otitis media. Bacon reports a case of acute mastoiditis in which sugar was found in the urine previous to operation, but disappeared after operation and never returned. The author suggests that possibly by animal experimentation this interesting question may be solved.

Electric Light in Diseases of the Respiratory Organs.—FREUDENTHAL (*New York Med. Journal*, July 12, 1902).—The author has been experimenting with electric light in the treatment of diseases of the respiratory organs for the past thirteen years. At first the incandescent light was used, but now he prefers the arc light. He uses a search-light, the same as used on ships. To overcome the great heat produced by the electric light, various devices, such as screens, lenses, etc., have been used, but the writer prefers to expose the different parts successively, and when it gets too warm for comfort he also applies cold cloths. However, in some cases he uses a blue glass screen, especially in the beginning. He believes the electric light to be a powerful stimulant and regulator of general nutrition. It has also a very marked anesthetic effect on the skin and those "inner" parts which can be reached by it. The pain in the larynx and that between the shoulder-blades of consumptives is occasionally, and sometimes very promptly, relieved. The histories of several cases of tuberculosis of the lungs and larynx are given in which the electric light was used as a therapeutic agent. He believes that in incipient cases he has brought about a cure, but in advanced tuberculosis electric light is only a palliative measure of occasionally great value. In hay asthma he has applied the remedy in twenty-four patients; out of these fourteen experienced decided improvement in all respects very soon after treatment was commenced. The rest improved but little or left treatment too soon to form an opinion. He applied the light to the face indirectly by letting the rays pass through a blue glass screen. The same plan is pursued if there is a necessity of applying it to the chest.

The Successful Treatment of Hay Fever.—JERVEY (*New York Medical Journal*, August 9, 1902).—Hay fever is essentially dependent upon a triad of conditions. These three essentials are: (1) A peculiar nervous susceptibility; (2) some abnormality—a hyperesthesia or a malformation, or both, perhaps ridiculously trifling—in the nasal structure; (3) the presence of some individually irritating substance in the atmosphere. Remove any one of these three conditions and the disease is controlled. The first or neurotic condition is not always easy to regulate, and the third condition—that of irritating substances in the atmosphere—is also more or less incapable of regulation. The natural deduction, then, in the obtaining circumstances, is to attack the second essential of the existence of the disease. The author asserts that there is not one case in ten of hay fever which cannot be practically immediately relieved by proper attention to the local condition in the nose; and this, combined with suitable systemic treatment subsequently faithfully carried out, will not only relieve, but ultimately cure. The histories of two patients are given. The first case was that of a physician. He was first seen in May, 1900, and had been a sufferer for years. His was a typical case of hay fever, with all the symptoms violent and exagger-

ated. The treatment was spraying the nose with an alkaline antiseptic solution (a ten per cent. solution of cocaine being alternately used in order to open up the nose); an aqueous solution of suprarenal extract was applied. The blood vessels and swollen tissues were promptly reduced to a practically natural condition. No abnormal growth could be detected in the nose. The case was one of localized hyperesthesia in the nasal mucosa, and these were controlled by the applications. The patient was directed to spray out his nose two or three times a day (or oftener, if necessary) with Dobell's solution, followed with a solution of suprarenal extract, and to take internally three grains of the extract (palatably combined with licorice powder) every three hours. The attack was aborted on the spot, so to speak. The next year, 1901, he had a return, as usual, but with much reduced severity; and a 1 to 4000 solution of adrenalin chloride met the indications and promptly conquered them.

The second case was that of a woman, who had also been suffering for years. The treatment employed was the same as in the first case, only that a polypoid enlargement was removed from the region of the middle turbinal on the left side. She was also given, besides the suprarenal extract, the elixir of phosphate of iron, quinine and strychnine. She has since had no return of the hay fever.

The Local Application of Heroin Hydrochloride.—ROSENBERG (*Laryngoscope* August, 1902), in his first experiments, employed a watery solution of 1 to 20 0.1 cm. of which contained 0.005 heroin, corresponding to the ordinary dose but lately he has reduced the concentration of heroin to one-half (that is, a solution of 1 to 40), so that of this 0.2 cm. can be injected without any risk. There need be no hesitation as to its local application, if the quantity used does not exceed the dose prescribed internally, and this, as a rule, is not necessary.

The effect of the local application of heroin in the larynx is twofold—first, cough allaying; and second, analgesic. Heroin owes its recognition as a remedy against irritating and dry coughs to its influence in reducing both central and peripheral irritability. This effect is naturally manifested by its local application, since it is as readily absorbed by the larynx or trachea as by the stomach. When applied to the mucous membrane the sensibility is reduced, as we have found by numerous experiments. A few drops of the solution upon a cotton pledget, and this applied to the mucous membrane of the nose, pharynx or larynx (in doing which not one-half of the solution is used up), we are able, by touching with a sound before and after the application, to demonstrate a diminution of the sensibility. Hence, heroin is also of service locally in coughs in certain cases entirely apart from its internal effect. In all patients suffering with laryngeal tuberculosis, he has often been able to note a considerable diminution and even an almost complete cessation of the cough for a number of hours up to twelve, or even the entire night. The effect seems to be cumulative, the pain in laryngeal tuberculosis disappearing at first only a few hours, and later remaining absent the entire day. In order to obtain the full action it is, of course, necessary to deposit the fluid upon the site of the disease, and not to be satisfied with having merely injected the larynx.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Universal Test-Characters Particularly Applicable as Visual Tests for Children.—A. E. EWING (Descriptive pamphlet with plates, 1902).—Figures and characters intended for the determination of visual acuity in young children and illiterates have been designed by Snellen, Burchardt, Boettcher, Guillery, Galezowski and others. Praun has recently published a series of figures representing the hands of a clock in different positions. Heimann has adopted a picture of a human hand with the index finger extended and pointing in various directions. Tests heretofore published demand extreme care on the part of the examiner to prevent misinterpretation or are so abstract as to be practically of little use.

Ewing's series conforms to the ratio 1:0.707, beginning with 2.5 metres and ending with 56 metres. With insignificant variations it follows Snellen's one-minute scale for the thickness of the line and his five-minute scale for the size of the character. The objects represented are a cross, horseshoe, square, circle, chair, rocking chair, pitcher, star, heart, mug and tea-pot. The characters are arranged in lines each containing a single character of each size and also in lines of a single size.

The writer's experience with this series shows that it is of greatest value in determining the visual acuity in children from three to four years old, in illiterates, aphakial illiterates and foreigners who do not know the Roman or German letters.

The Nature and Treatment of Pterygia.—J. O. McREYNOLDS (*Jour. A. M. A.*, August 9, 1902).—According to the writer, pterygia are produced by the "prolonged irritating action of several factors, chief among which are: heat, a dry atmosphere, high winds, exposure to sunlight, and an abundance of dust, especially if alkaline in character." As might naturally be inferred, ranchmen, farmers, etc., who are constantly subjected to the conditions mentioned above, constitute the vast majority of the victims of this disease.

Simple abscission of the growth leaves a gap which must be covered in by sliding the conjunctiva and suturing. The line of apposition is rarely as smooth as normal conjunctiva, and subsequent irritation is apt to give rise to new vascular formation and the regrowth of the pterygium. Transplantation is less likely to be followed by recurrence.

McReynolds has devised the following method, which is a modification of Desmarre's operation: The neck of the pterygium is firmly grasped by fixation forceps. The constricted portion is transfixed by a Graefe knife and the pterygium shaved off from the cornea as smoothly as possible. The conjunctiva is divided by scissors along the lower border of the pterygium from one-fourth to one-half inch in the direction of the canthus. The body of the pterygium and the conjunctiva lying below the oblique one-half cut are separated from the sclera by blunt dissection. A silk thread is armed at both ends with small, curved needles, which are passed through the apex of the pterygium from without inwards. The needles are then introduced in parallel direction beneath the loosened lower segment of conjunctiva, and emerge in the neighborhood of the lower fornix, separated from each other about three-sixteenths inch. The lower conjunctival segment is then gently lifted up and traction made on the sutures. The pterygial tip glides beneath the conjunctiva. The sutures are then tightened and fastened.

As the result of the downward traction the conjunctiva above is thinned and closely applied to the sclera, and the margin of the conjunctiva usually coincides

with the selero-corneal margin. In case there is a slight overlapping, the redundant conjunctiva can readily be trimmed away. In large pterygia the tip and a portion of the body may be abscised before burying.

The special advantages of this method are: (1) absence of a visible stitch; (2) concentration of the vascular activity in the lower fornix without tendency to encroach on the cornea; (3) rapidity of healing of the corneal wound; (4) excellent cosmetic results.

The Treatment of Serpiginous Ulcer of the Cornea.—C. J. KIPP (*Jour. A. M. A.*, August 9, 1902).—Serpiginous ulcers of the cornea presenting the following features are regarded by Kipp as retrogressive in type, healing readily under simple treatment: Straight lines diverge from the margin of the ulcer and pass rather obliquely into the deeper layers. The further ends of these lines are connected by grayish striae which, in some cases, unite to form a ring of the same general contour as the margin of the ulcer, but situated more deeply. The cornea between the radiating striae is cloudy. The general appearance is that of a spider's web.

These features never develop under treatment, and in untreated cases do not appear before the fifth day. As the ulcer fills up the opaque lines disappear. Active destruction of tissue by cauterization, etc., is contraindicated and treatment should be confined to warm boric acid collyria and atropia. The concomitant iridocyclitis is usually not severe. Blennorrhea of the sack is best managed by slitting the canaliculus and syringing. Later, gentle massage of the cornea with a salve containing the yellow oxide of mercury is of assistance in promoting resorption.

In cases which do not present these linear opacities the treatment must be more active. Warm boric acid compresses are applied continuously, atropia is instilled several times a day, and iodoform is dusted on the ulcer. If the advance of the ulcer is not checked, the galvano-cautery is applied to the entire denuded surface, which has previously been mapped out by the fluorescein stain. If the ulcer is very deep it should be perforated by the cautery, which procedure is also advisable if the pupil is not well dilated or the tension is above normal. Cauterization is repeated if necessary. Paracentesis at the corneal margin is useful in some cases complicated by severe iridochoroiditis, but in general perforation with the cautery is much to be preferred. Severe pain is well controlled by aspirin or sodium salicylate in ten-grain doses. Uncontrollable cases are usually associated with diabetes or nephritis, and, if the iridochoroiditis persists, may lead to closure of the pupil and secondary glaucoma. Nasal complications should receive appropriate treatment.

Nellhagen has found that the presence of the pneumococcus is indicative of a malignant form, and the most active treatment is demanded.

A Case of Epithelioma of the Margin of the Eyelid Apparently Cured by the Use of a Solution of Adrenalin Chloride.—W. B. MARPLE (*Med. Rec.*, August 23, 1902).—A patient presenting an epitheliomatous infiltration extending from the external canthus to about the middle of the lower lid, was given a solution of adrenalin chloride, 1:1000 as a placebo, in the expectation that operation would eventually have to be resorted to. At the end of a month there was a noticeable decrease in the hyperemia of the growth, which appeared also to be shrinking. Six months later there was hardly a trace of the tumor.

The cure is explained on the ground of the production of a state of temporary bloodlessness in a poorly vascularized tissue.

BOOK REVIEWS.

ATLAS AND EPITOME OF OTOTOLOGY. By GUSTAV BRUHL, M. D., of Berlin, with the collaboration of Professor Dr. A. Politzer, of Vienna. Edited, with additions, by S. MacCuen Smith, M. D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 colored and 39 lithographic plates, 99 text illustrations and 292 pages of text. Philadelphia and London: W. B. Saunders & Co. 1902. Cloth, \$3.00 net.

This excellent volume is a translation of one of the series of the well-known Lehmann's Atlases, and contains everything of importance in the elementary study of otology. It is both didactic and clinical in its teaching. The minute anatomy is very carefully gone into. The illustrations are beautifully executed and illuminate the text in a singularly lucid manner. The association of Prof. Politzer with this work notably enhances the value of this treatise. This work is especially adapted to the wants of the student.

DISEASES OF THE NOSE, PHARYNX AND EAR. By HENRY M. GRADLE, M. D., Professor of Ophthalmology and Otology, Northwestern University Medical School. Chicago. Handsome octavo of 547 pages, profusely illustrated, including two full-page plates in colors. Philadelphia and London: W. B. Saunders & Co. 1902. Cloth, \$3.50 net.

This volume is intended to present disease as the author has seen it during an experience of nearly twenty-five years. It has been his aim to answer in detail those questions regarding the course and outcome of diseases which are not easily obtained from text-books. The work is divided into two parts; the first deals with the diseases of the nasal passages and pharynx, the second with the diseases of the ear. Liberal space is devoted to topographic anatomy. Two chapters are given to etiology and hygiene, which contain many points of practical value. The chapter on the diseases of the accessory sinuses is up to date and is rich in practical suggestions. The reviewer agrees with the author that acute follicular tonsillitis is a self-limited disease and that at present we possess no method of treatment which will abort or shorten the course of the disease. The diseases of the ear are dealt with in a concise but thorough manner. It is a valuable text-book, but can hardly be classed as a work of reference.

AMERICAN GYNECOLOGY. Issued monthly. CHARLES JEWETT, M. D., Editor-in-chief. Subscription price, \$4.00 a year, in advance. 1 Madison avenue, New York.

The first number of this new publication is before us. The list of its editorial board and collaborators contains the names of the best known gynecologists of the country, and with their co-operation the new journal should have no difficulty in holding a prominent position among our contemporaries.

We wish *American Gynecology* a successful career and a worthy support of the profession.

MOTHER AND CHILD. By E. P. DAVIS. Philadelphia: J. B. Lippincott Co. 1902.

This is the second edition of a book written originally by Keating and Davis. The hygiene of pregnancy and of the lying-in period are first discussed. Then follow chapters on the care of the child—hygiene, food, clothing, development, signs of illness, nursing, emergencies.

The book is most readable, and will doubtless be of value to young mothers. The book-work is very good, the illustrations being especially abundant and valuable.

THE ARTIFICIAL FEEDING OF INFANTS, INCLUDING A CRITICAL REVIEW OF THE RECENT LITERATURE OF THE SUBJECT. By CHARLES T. JUDSON and J. CLAXTON GIDDINGS. Philadelphia: J. B. Lippincott Co. 1902.

It is not often that one can say that a medical work fills a long-felt want, but in the present instance this is most certainly true. The authors have abstracted all articles, foreign and American, pertaining to the various branches of the subject that have appeared from 1894 to 1901, inclusive, and have also drawn upon the more important monographs and text-books.

The abstracts are appropriately grouped under various heads, including a historical sketch, mother's milk, cow's milk, digestion, modern methods of infant feeding, weaning, care of the milk, bacteriology, sterilization and pasteurization, weight and growth of the infant, and feeding of premature infants. Then the authors draw conclusions from this rich material, giving chapters on principles of infant feeding, methods of home modification and practical rules for feeding. An analysis of various artificial foods is appended, as is also the complete bibliography.

The value of such a book to the general practitioner can hardly be overestimated, and the authors deserve the thanks of the profession for their really great amount of work, which has resulted in so useful a book.

The book-work itself is most excellent.

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